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FINAL SITE INVESTIGATION FOR AREA OF CONCERN 19 WITH ATTACHED RESPONSE TO COMMENTS NAS FORT WORTH TX

4/1/2002

HYDROGEOLOGIC

NAVAL AIR STATION
FORT WORTH JRB
CARSWELL FIELD
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 724

FINAL
SITE INVESTIGATION REPORT
AREA OF CONCERN 19
NAS FORT WORTH JRB, TEXAS

Prepared for

U.S. Air Force Center for Environmental Excellence
Brooks AFB, Texas

Contract Number F41624-95-D-8005

Prepared by

HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, VA 20170

April 2002

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE TEXAS

30 April, 2002

MEMORANDUM FOR RAY RISNER (TNRCC)

FROM: HQ AFCEE/ERD
3207 Sidney Brooks
Brooks AFB, TX 78235-5344

SUBJECT: Naval Air Station Joint Reserve Base
Formerly Carswell AFB
TNRCC Solid Waste Registration No. 65004
TNRCC Hazardous Waste Permit No. HW-50289
EPA ID No. TX0571924042
Final Site Investigation Report, AOC 19

Dear Mr. Risner,

Two copies (one original and one copy) of the Final Site Investigation Report requesting closure of Area of Concern 19 are enclosed for your review per the TNRCC RCRA permit No. HW-50289 for NAS Fort Worth JRB. Additional copies of the Final Report are also being sent to the TNRCC Region 4 Office and to EPA Region 6.

Should you have any questions regarding this letter, please contact me at (210) 536-5290.

Sincerely,

Michael R Dodyk

Michael R. Dodyk, P.E.
Restoration Team Chief
NAS Fort Worth JRB

cc:

EPA Region VI
Mr. Gary W. Miller
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

TNRCC Region 4 Office
Mr. Sam Barrett, Waste Program Manager
1101 East Arkansas Lane
Arlington, TX 76010

TNRCC Region 4 Office (letter only)
Mr. Tim Sewell
1101 East Arkansas Lane
Arlington, TX 76010

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Mr. Don Ficklen
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Ms. Audrie Medina
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San Antonio, TX 78205

RESPONSES TO REVIEW COMMENTS
DRAFT SITE INVESTIGATION REPORT
AREA OF CONCERN 19, NAVAL AIR STATION
JOINT RESERVE BASE, FORT WORTH, TEXAS

Comment 1 *Page 1-1, Section 1.0, 2nd sentence. Please insert "as a voluntary action by the Air Force and was" after "The SI was conducted."*

Response **This change has been made as requested.**

Comment 2 *Page 1-3, Section 1.3, 4th paragraph, 4th sentence. Please explain the source(s) of the "existing medium specific concentrations (MSCs)."*

Response **The sentence has been revised to read: "All analyte concentrations above the applicable RRS 1 value were compared to the applicable RRS 2 values, which are the medium-specific concentrations (MSCs) presented in 30 TAC §335.368. Those concentrations above RRS 2 pose a potential threat to shallow groundwater."**

Comment 3 *Page 1-3, Section 1.3, 5th paragraph, 1st sentence. Please use either "Standard 2" or "RRS 2" consistently throughout the document.*

Response **The explanation of RRS 1, RRS 2, Standard 1, Standard 2, and Standard 3 has been expanded in Section 1.3, and the document has been reviewed to ensure that the use of these terms is correct and consistent.**

Comment 4 *Page 1-4, Section 1.3, Please consider presenting the last two sentences in Section 4.0.*

Response **The following text has been added as the 6th sentence of the 4th paragraph on page 1-3: "In some cases, a site-specific soil MSC was developed for an analyte by performing the synthetic precipitation leaching procedure (SPLP) and comparing the analytical results of the leachate to the applicable groundwater MSC (see Section 4.0)."**

Comment 5	*Page N/A, Section Figure 1.2. Please clearly indicate that the portion of solid waste management unit (SWMU) 25 that is across Perimeter Road is a part of SWMU 25. Also, include SWMU numbers for all SWMUs shown on the figure.*
Response	**Both portions of SWMU 25 have been indicated on the figure, and all SWMUs and AOCs shown on this figure have been identified.**
Comment 6	*Page N/A, Section Figure 2.1. Please add a legend to the figure that explains the various shadings on the drawing.*
Response	**The shading on this figure has been reproduced from the original USGS topological map; therefore, no change has been made.**
Comment 7	*Page 3-3, Section 3.4.1. Please change "Volatile" to "volatile" and "Semivolatile" to "semivolatile" here and throughout the document.*
Response	**The capitalization of these words has been corrected.**
Comment 8	*Page 3-4, Section 3.4.2.3. It is recommended that the section be reviewed for discrepancies in the total number of Phase II borings and monitoring wells.*
Response	**This section has been reviewed and discrepancies have been corrected. This section has also been revised to improve clarity.**
Comment 9	*Page 3-4, Section 3.4.2.3. 1st paragraph, 2nd sentence. Please reword the sentence for clarity.*
Response	**This sentence (as well as several subsequent sentences) has been revised for clarity.**
Comment 10	*Page 3-4, Section 3.4.2.3. 1st paragraph, 3rd sentence. Please indicate whether the Work Plan was revised to reflect the expanded scope of work and, if not, indicate whether AFCEE approval was obtained for the increased scope.*

Response **The original Work Plan Addendum was not revised. The report text has been edited to indicate that the additional field work was performed after consultation with AFCEE and with AFCEE's concurrence.**

Comment 11 *Page 3-4, Section N/A. Footnote 4 at the bottom of the page. Please insert "low TCE readings in" between "on" and "the."*

Response **This footnote has been revised to include this information.**

Comment 12 *Page 3-5, Section 3.4.2.3. 4th bullet. Please change "SW7471" to "SW7471A" and change "Amercury" to "mercury."*

Response **This change has been made as requested.**

Comment 13 *Page 3-5, 3.4.2.3, 1st paragraph on the page, 5th sentence. Please insert "analysis of " between "of" and "the."*

Response **The text has been changed to read "Based on the analytical results of the sample collected from ..."**

Comment 14 *Page 3-6, Section 3.4.2.3. 2nd paragraph on the page, 2nd sentence. Please rewrite the beginning of the sentence to read "A sample was collected from boring BHGLAOC1907 in August 2001."*

Response **This sentence has been divided into two sentences that now read "One of the twelve Phase II borings, BHGLAOC1907, was advanced for confirmation purposes. The 10-foot interval of this confirmation boring was sampled in August 2001 in order to confirm a TCE detection in the 10-foot interval of BHGLAOC1901."**

Comment 15 *Page 3-6, Section 3.4.2.4. 1st paragraph, 2nd sentence. Please show the piles of golf course construction debris on Figure 3.1.*

Response **The debris pile is now shown on Figure 3.1.**

Comment 16 *Page N/A, Figure 3.1. Please crosshatch the area that is part of both AOC 19 and SWMU 25 (also pertains to other figures). Please indicate that the blue hash marks indicate an aqueduct.*

Response	**SWMU 25 is now indicated by cross-hatching in the manner similar to that of Figure 6.1. Both figure legends now show that the hash marks indicate an underground aqueduct.**
Comment 17	*Page 4-1, Section 4.0. 2nd paragraph, 1st sentence. Please insert a comma after "previously."*
Response	**This change has been made as requested.**
Comment 18	*Page 4-1, Section 4.0. 2nd paragraph, 3rd sentence. Please consider revising the sentence to read "Furthermore, all analytical results exceeding RRS 1 levels were compared to available MSCs."*
Response	**This change has been made as requested.**
Comment 19	*Page 4-1, Section 4.0. 3rd paragraph, 1st sentence. Please consider revising this sentence if synthetic precipitation leaching procedure (SPLP) analysis was run on any samples for which there was no existing MSC.*
Response	**Standard 2 detections of analytes for which there are no RRS 2 values did not trigger SPLP extraction and analysis. No changes have been made.**
Comment 20	*Page 4-1, Section 4.1. 1st paragraph, last sentence. Please include the date that the RCRA Facility Investigation (RFI) was conducted at SWMU 25/Landfill 8.*
Response	**The dates of RFI activities conducted at SWMU 25/Landfill 8 have been added to footnote 6 on page 4-1.**
Comment 21	*Page 4-2, Section 4.1. 1st paragraph, 2nd sentence. Please include the waste manifest for the metal debris, if available, as an Appendix.*
Response	**No manifests were generated for this debris. The report has been revised to indicate that the metal debris was determined to be non-hazardous.**

Comment 22 *Page 4-3, Section 4.1. 2nd paragraph on the page, last sentence. Please replace "native soil" with "the excavated soil."*

Response **This change has been made as requested.**

Comment 23 *Page 4-4, Section 4.2. 1st paragraph, 1st sentence. Please reference Figure 4.1 at the end of the sentence.*

Response **This change has been made as requested.**

Comment 24 *Page 4-4, Section 4.2. 1st paragraph, 3rd sentence. Please locate the bermed area on the Figure 4.1.*

Response **This change has been made as requested.**

Comment 25 *Page 4-4, Section 4.2. 1st paragraph, last sentence. Please indicate the contaminants for which delineation is necessary.*

Response **The identification of contaminants for which delineation was necessary is a principal topic of Section 3.4.2.3, and this section is now referenced in Section 4.2.**

Comment 26 *Page 4-7, Section 4.4. 2nd paragraph on the page, 2nd sentence. Please spell out the acronym "MDL" and include it in the "Acronyms" section.*

Response **The phrase "above the MDL" is redundant and has been removed from this sentence.**

Comment 27 *Page 4-11, Table 4.2. Please define "GW-Ind" in the "Notes" section below the table.*

Response **This change has been made as requested.**

Comment 28 *Page 4-12, Table 4.3. Please globally (for all tables) remove the term "analyzed for , but" from the "Notes" section.*

Response **This change has been made as requested.**

Comment 29 *Page 4-16, Table 4.4. Please remove the "2" following "NA= not analyzed." Also, please use capitalization consistently in the "Notes" sections of the tables (e.g., text following "NA" begins with a lowercase letter, but text following "F" begins with an uppercase letter).*

Response **This change has been made as requested. The table notes have been edited for consistency.**

Comment 30 *Page N/A, Figure 4.1. Please label Perimeter Road in the figure.*

Response **This change has been made as requested.**

Comment 31 *Page N/A, Figure 4.3. Please describe the metal object in the right pictures in the appropriate section of the text.*

Response **The text (page 4-2, third paragraph) describing the anomaly at THGLAOC1902 has been revised to include both metal objects shown in Figure 4.3.**

Comment 32 *Page N/A, Figure 4.8. Please consider indicating the extent of contamination delineation. Also, the legend points out that yellow shading indicates "proposed samples," but there are no proposed samples. Please clarify.*

Response **The text "proposed samples and" has been removed from the key for yellow headers. The extent of delineation for VOCs and SVOCs are depicted as the metes and bounds shown in Figure 6.1, and have not been placed on Figure 4.8.**

Comment 33 *Page 5-1, Section 5.3. Please reference Figure 4.8 in this section.*

Response **This change has been made as requested.**

Comment 34 *Page 6-1, Section 6.0. 2nd paragraph, 1st sentence. Please insert "activities at" between "that" and "AOC 19."*

Response **This change has been made as requested, with the addition of the word "former" before "activities".**

Comment 35	*Page 6-1, Section 6.0. 2nd paragraph, 2nd sentence. Please insert "and delineated" between "identified" and "at."*
Response	**An additional sentence was added after the referenced sentence: "The SVOCs in this section of the site have been delineated."**
Comment 36	*Page 6-1, Section 6.0. 4th paragraph, 2nd sentence. Please insert a comma after the word "language."*
Response	**This change has been made as requested.**
Comment 37	*Page N/A, Appendix E. The "Notes" sections of the tables contain a description of a "UJ" flag, but it does not appear that the "UJ" flag is used in the table. Typically, a result will be flagged as "U" or "J," but not both. Please clarify.*
Response	**UJ qualifiers are used in association with some AOC 19 data per the approved QAPP (e.g., the antimony result for BHGLAOC1903 00 ft on page E1-15). The definitions of data qualifiers in Appendix E have been edited for accuracy and clarity.**
Comment 38	*Page N/A, Appendix H. Please ensure that the metes and bounds legal description is included in the next version of this report. Make the signature for Michael Dodyk, keeping the same address for AFCEE. Please change the date portion of the signature blocks to "2002."*
Response	**The legal description for metes and bounds at AOC 19 has been added to this report. The other changes have been made as requested.**

REPORT DOCUMENTATION PAGE

Form Approved

QMB No 0704-0188

1 AGENCY USE ONLY *(Leave blank)*	2 REPORT DATE	3 REPORT TYPE AND DATES COVERED
	April 2002	Final

4 TITLE AND SUBTITLE

Final Site Investigation Report
Area of Concern 19
NAS Fort Worth JRB, Texas

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F41624-95-D-8005
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6 AUTHOR(S)

HydroGeoLogic, Inc

7 PERFORMANCE ORGANIZATION NAMES(S) AND ADDRESS(S)

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8 PERFORMANCE ORGANIZATION REPORT NUMBER

AFC001

9 SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(S)

AFCEE/ERD
Brooks AFB, Texas
78235-5328

10 SPONSORING/MONITORING AGENCY REPORT NUMBER

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Unlimited

12b DISTRIBUTION CODE

13 ABSTRACT (Maximum 200 words)

This document presents the Final Site Investigation (SI) Report for Area of Concern 19 located at the Naval Air Station Fort Worth Joint Reserve Base, Texas. Field observations and analytical results included in this SI Report indicate that there is some evidence that a release has occurred to the environment of hazardous constituents listed in 40 Code of Regulation Part 264, Appendix IX at AOC 19; however, analytical results indicate that this release poses no threat to human health or the environment. Based on this information, no further action is warranted, and the site is recommended for closure under Texas Natural Resources Conservation Commission Risk Reduction Standard 2.

14 SUBJECT TERMS

15 NUMBER OF PAGES

16 PRICE CODE

17 SECURITY CLASSIFICATION OF REPORT	18 SECURITY CLASSIFICATION OF THIS PAGE	18 SECURITY CLASSIFICATION OF ABSTRACT	20 LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	Unlimited

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PREFACE

This document contains the Final Site Investigation (SI) Report for area of concern (AOC) 19 at the Naval Air Station (NAS) Fort Worth Joint Reserve Base (JRB), Texas.

HydroGeoLogic, Inc. (HydroGeoLogic) prepared this report under contract to the U.S. Air Force (USAF) Center for Environmental Excellence (AFCEE), Contract No. F41624-95-D-8005, Delivery Order No. 0026, in support of the Air Force Installation Restoration Program (IRP).

Responsible key HydroGeoLogic personnel are as follows:

James P. Costello, P.G.	Program Manager
Miquette E. Rochford, P.G.	Deputy Program Manager / Project Manager

This contract will be administered by the Defense Contract Management Command (DCMC), 10500 Battleview Parkway, Suite 200, Manassas, Virginia 22110. The Contracting Officer is Mr. David Miller. The Contracting Officer's Representative is Mr. Don Ficklen (210/536-5290), representing the AFCEE Environmental Restoration Division (ERD), located at Headquarters AFCEE, 3207 Sidney Brooks, Brooks Air Force Base (AFB), Texas 78235-5363.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AFCEE	U.S. Air Force Center for Environmental Excellence
AFP 4	Air Force Plant 4
AGE	aerospace ground equipment
AOC	area of concern
ASTM	American Society for Testing and Materials
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COPCs	contaminants of potential concern
cm/sec	centimeters per second
DCMC	Defense Contract Management Command
DPT	direct push technology
DQE	data quality evaluation
EDD	electronic data deliverable
EM	electromagnetic
ERA	Environmental Restoration Account
ERD	Environmental Restoration Division
ERPIMS	Environmental Resources Program Information Management System
ESE	Environmental Science and Engineering, Inc.
ft/d	feet per day
°F	degrees Fahrenheit
gpd/ft^2	gallons per day per square foot
GSAP	Groundwater Sampling and Analysis Program
HSA	hollow stem auger
HW	hazardous waste
HydroGeoLogic	HydroGeoLogic, Inc.
IRA	Interim Remedial Action
IRP	Installation Restoration Program
IT	International Technologies Corporation

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LIST OF ACRONYMS AND ABBREVIATIONS (continued)

JRB	Joint Reserve Base
LCS	laboratory control sample
mg/kg	milligrams per kilogram
MQL	method quantitation limit
MSC	medium-specific concentration
MS/MSD	matrix spike/matrix spike duplicate
NAS	Naval Air Station
NFA	no further action
NGVD	National Geodetic Vertical Datum
NPDES	National Pollution Discharge Elimination System
NPL	National Priority List
OVM	organic vapor monitor
OWS	oil/water separator
PAH	polynuclear aromatic hydrocarbon
QAPP	quality assurance project plan
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RRS	risk reduction standard
SDG	sample delivery group
SI	Site Investigation
SPLP	synthetic precipitation leaching procedure
SVOC	semivolatile organic compound
SWMU	solid waste management unit
TAC	Texas Administrative Code
TCE	trichloroethene
TNRCC	Texas Natural Resource Conservation Commission
TWC	Texas Water Commission
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

VOC	volatile organic compound
WP	Work Plan
WPA	Work Plan Addendum

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TAB

SECTION 1.0

FINAL
SITE INVESTIGATION REPORT
AREA OF CONCERN 19
NAS FORT WORTH JRB, TEXAS

1.0 INTRODUCTION

The Air Force Center for Environmental Excellence (AFCEE) contracted HydroGeoLogic, Inc. (HydroGeoLogic) to perform a Site Investigation (SI) at Area of Concern (AOC) 19 located at Naval Air Station (NAS) Fort Worth Joint Reserve Base (JRB), Texas (formerly Carswell Air Force Base [AFB]). This SI was conducted as a voluntary action by the Air Force and was based on historic aerial photographic evidence that suggested that possible fire training activities had occurred at this location. The investigation was conducted under the auspices of, but not at the request of, the Texas Natural Resource Conservation Commission (TNRCC) to determine whether any hazardous constituents had been released into the environment from AOC 19. The first phase of the SI field work was conducted in May 2000. Based on the results of the Phase I investigation, further investigation at AOC 19 was necessary. The second phase of the SI was conducted in 2001. The results of field investigation activities at AOC 19 revealed some evidence of release to soils at AOC 19; however analytical results indicate that this release poses no threat to human health or the environment. Based on this information, no further action (NFA) is warranted and AOC 19 is recommended for closure under TNRCC Risk Reduction Standard 2 (RRS 2) (30 Texas Administrative Code [TAC] 335.554).

1.1 PROJECT BACKGROUND

Carswell AFB was officially closed on September 30, 1993. A significant portion of the former base, now known as NAS Fort Worth JRB, has been transferred from the U.S. Air Force (USAF) to U.S. Navy management. Before complete property transfer can be accomplished, required environmental investigations of potential contamination related to USAF activities occurring prior to September 30, 1993 on NAS Fort Worth JRB property are to be completed, and contaminated sites remediated.

On February 7, 1991, the former Carswell AFB (NAS Fort Worth JRB) was issued a Resource Conservation and Recovery Act (RCRA) hazardous waste (HW) permit (HW-50289) by the Texas Water Commission (TWC). This permit requires a RCRA Facilities Investigation (RFI) of all solid waste management units (SWMUs) and AOCs listed in Permit Provision VIII, as well as those SWMUs and AOCs subsequently added to the list, in order to determine if any of the hazardous constituents listed in 40 Code of Federal Regulations (CFR) Part 264, Appendix IX have been released into the environment.

In accordance with permit HW-50289, an RFI/SI was conducted at four SWMUs and three AOCs at NAS Fort Worth JRB in May 2000 (HydroGeoLogic, 2000a). The SWMUs and AOCs included in the RFI/SI served mainly as fire training areas, suspected former landfills, and a storm water drainage system. The AOCs included in the SI are not listed in permit HW-50289, nor were they added at a later date. The SI was performed as a proactive measure under the initiative and direction of AFCEE.

The initial phase of the RFI/SI was conducted at the subject SWMUs and AOCs during May 2000, in an effort to obtain closure under the TNRCC RRS program. As a result of the initial field investigation AOCs 17 and 18 received closure under RRS 1 in a letter from the TNRCC dated March 7, 2001. The remaining five of the seven sites required further investigation and/or remediation before closure could be requested. Consequently, a Phase II investigation was conducted at SWMUs 19, 20, 21, and 53, and AOC 19 in 2001 (HydroGeoLogic, 2000b) SWMU 53 received closure under RRS 1 by the TNRCC in a letter dated July 18, 2001 Investigations continue at SWMUs 19, 20, and 21, the results of which will be presented under a separate RFI report at a later date. The remaining site, AOC 19, is the subject of this SI Report.

This SI Report demonstrates that AOC 19 poses no significant risk to human health or the environment and provides justification for NFA and closure under RRS 2 for soil. This investigation was managed by the USAF under the Environmental Restoration Account (ERA). The lead regulatory agency that governs this SI and closure of this site is the TNRCC.

1.2 SITE IDENTIFICATION AND DESCRIPTION

The area of interest for this SI Report is AOC 19 located on the NAS Fort Worth JRB installation. AOC 19 was one of three AOCs identified in the February 17, 1998, letter from HydroGeoLogic to AFCEE detailing findings from historic aerial photographs (Appendix A). The location of AOC 19 in relation to the base is presented on Figure 1.1.

As illustrated in Figure 1.1, AOC 19 is located south of taxiway Charlie, and adjacent to the base boundary. Activity at this site was identified on aerial photographs of Carswell AFB during the period of February 3, 1954 through August 22, 1962 (U.S. Geological Survey [USGS], 1954; National Archives, 1962). Figure 1.2 shows the current location of AOC 19 superimposed on a historical aerial photograph.

The operational history of AOC 19 is unknown. However, as the site was suspected to have operated as a fire training area during the 1950s and early 1960s, wastes received may have consisted of various waste oils, recovered fuels, and spent solvents and cleaners. Currently, the AOC 19 area is covered by grass, with a bermed area at the north and partially down the western boundary of the site. Current photographs of AOC 19 are shown in Figure 1.3. A fence marks the NAS Fort Worth JRB boundary at the south and eastern boundaries of AOC 19, with an escarpment immediately to the south of AOC 19 leading into Farmers Branch Creek. Immediately east and adjacent to AOC 19 is the Carswell golf course. The western portion of AOC 19 (approximately one-third of AOC 19's area) overlaps SWMU 25/Landfill 8 (Figure 1.3). SWMU 25/Landfill 8 received closure in June 2001 under RRS 2.

1.3 REGULATORY REQUIREMENTS

SI field activities were initiated at AOC 19 in May 2000, and continued through 2001. Although AOC 19 is not a RCRA-permitted site, the SI was designed to meet the requirements of Provision VIII of RCRA permit HW-50289. The RFI/SI Work Plans (WPs) and this SI Report have been prepared using guidance documents from the Installation Restoration Program (IRP), RCRA, the U.S. Environmental Protection Agency (USEPA), and the TNRCC RRS program.

Phase I of this SI was conducted in accordance with the RFI/SI WPs prepared by HydroGeoLogic dated April 2000 (HydroGeoLogic, 2000a). The RFI/SI WPs contain the Field Sampling Plan, which was followed during all sampling activities. Phase II of this SI was conducted in accordance with the Final Phase II RFI/SI Work Plans Addendum (WPA) prepared by HydroGeoLogic dated November 2000 (HydroGeoLogic, 2000b). Exploratory excavation activities were performed in accordance with the Final Excavation Work Plan for SWMUs 19 and 64, and AOC 19 (HydroGeoLogic, 2001a). In addition, the 2000 Basewide Quality Assurance Project Plan (QAPP) was used as guidance for managing specific quality assurance (QA) and quality control (QC) procedures as well as analytical data generated from the RFI and SI. Analytical data generation and assessment were designed to achieve data quality goals in accordance with the 2000 Basewide QAPP (HydroGeoLogic, 2000c).

The overall objective of the RFI/SI is to obtain closure of the subject SWMUs and AOCs under the guidelines of the TNRCC RRS program. An overview of the RRS program is presented in Section 4.1 of the RFI/SI WPs (HydroGeoLogic, 2000a).

To determine if a release has occurred at AOC 19, the results from site samples were compared to predetermined RRS 1 values. For inorganic constituents, the RRS 1 values were obtained from the base-specific background values for surface and subsurface soils as presented in the Final Basewide Background Study (Jacobs, 1998). For organic analytes, RRS 1 values were determined using compound-specific method quantitation limits (MQLs), as defined in the TNRCC Interoffice Consistency Memorandum (TNRCC, 1998a) and its Erratum Sheet (TNRCC, 1998b). All analyte concentrations above the applicable RRS 1 value were compared to the applicable RRS 2 values, which are the medium-specific concentrations (MSCs) presented in 30 TAC §335.368. Those concentrations above RRS 2 pose a potential threat to shallow groundwater. In some cases, a site-specific soil MSC was developed for an analyte by performing the synthetic precipitation leaching procedure (SPLP) and comparing the analytical results of the leachate to the applicable groundwater MSC (see Section 4.0). Note that analyte concentrations at or below the RRS 1 value are referred to as Standard 1 concentrations, analyte concentrations above the RRS 1 value and at or below the RRS 2 value are referred to as Standard 2 concentrations, and analyte concentrations above the RRS 2 value are referred to as Standard 3 concentrations.

Closure may be requested under the provisions of RRS 2 when it is established that the subject site does not contain contaminant concentrations greater than RRS 2 in any contaminated media of concern. In addition, contamination must be delineated to Standard 1 concentrations. Attainment of closure under RRS 2 is demonstrated by sufficient sample collection and analysis from the contaminated media of concern using the procedures outlined in Subchapter S of the TNRCC Risk Reduction Rules and the TNRCC Interoffice Memorandum. A document stating the responsible persons intention to fulfill deed certification requirements outlined in subsection 335.560 of the Risk Reduction Rules, Subchapter S must also be prepared and approved.

Evaluation of the Phase I and II SI results against the above criteria indicated that there may be a release to the soils at AOC 19. This potential release has been delineated and poses no significant risk to human health or the environment. As a result, AOC 19 is recommended for closure under Standard 2 (RRS 2).

1.4 INVESTIGATION STRATEGY

The SI was designed and conducted to achieve the following objectives:

- Determine if a release from AOC 19 has occurred.
- Characterize the nature and extent of any contamination encountered.
- Utilize the Synthetic Precipitation Leaching Procedure (SPLP) to provide site-specific MSCs, if necessary.

Field tasks used to characterize AOC 19 included the advancement of soil borings, conducting a geophysical survey, excavation of geophysical anomalies, monitoring well installation, and groundwater monitoring.

During Phase I of the SI, a total of 4 continuous core characterization soil borings were advanced using direct push technology (DPT) within the boundaries of AOC 19. Soil samples were collected from each characterization soil boring in 5-foot intervals from the ground surface to the top of the water table or refusal. This soil sampling method was used to determine the lithology of native soils and the nature and extent of any surface and subsurface contamination at AOC 19.

During Phase II of the SI a geophysical survey was conducted at AOC 19. Following the geophysical survey, exploratory excavations and confirmation soil sampling were conducted to investigate the potential existence of subsurface anomalies at the site. Following the geophysical activities, additional characterization soil borings along with delineation borings were advanced at the site. These borings provided additional site data to confirm Phase I detections or to delineate specific contaminants of potential concern (COPCs) to RRS 1 concentrations. Phase II delineation and conformation soil samples were collected at the depth intervals associated with the corresponding Phase I detections.

Also during Phase II of the SI, three monitoring wells were installed using a hollow-stem auger (HSA). Soil samples were collected during the installation of each monitoring well and analyzed for COPCs associated with Phase I detections. Three rounds of groundwater samples were collected from both new and existing wells at the site. Groundwater samples were analyzed for those COPCs identified in the Phase I soils.

As previously noted, AOC 19 was identified as a potential former fire training area by aerial photo interpretation only. No actual records of fire training activities at AOC 19 were confirmed. In order to determine if AOC 19 presents a threat to human health or the environment, essential information regarding the site was obtained. This information includes:

- The nature of wastes potentially generated at AOC 19.
- The lithology of soils to the top of the water table or refusal beneath AOC 19.
- An assessment of potential contaminant impacts on the quality of soil and groundwater within and around AOC 19.

1.5 DATA QUALITY OBJECTIVES

The data generated by this project are of sufficient quality and quantity to meet the overall project objective to request closure of AOC 19 under the TNRCC RRS program. Data from the following categories were required for this study:

Site Characterization - Data were used to evaluate physical and chemical properties of soil and groundwater. The data were also used to characterize the nature and extent of any contaminants detected.

Health and Safety - Data were used to establish the level of protection needed for the sampling team and other site-related personnel. These data were gathered by the use of organic vapor monitors (OVMs) during intrusive activities.

A combination of screening level data and definitive level data was used during this SI. Health and safety data were collected as screening data. All soil samples were analyzed following USEPA SW-846 protocols. The definitions of screening data and definitive data, as established by the Data Quality Objectives Process for Superfund Interim Final Guidance (USEPA/540/G-93/071, 1993) are described below:

- Screening Data with Definitive Confirmation - Screening data can be generated by rapid, less precise methods of analysis with less rigorous sample preparation. Sample preparation steps may be restricted to simple procedures such as dilution with a solvent, instead of elaborate extraction/digestion and cleanup. Screening data provides analyte identification and quantification. Although the quantification may be determined using analytical methods with QA/QC procedures and criteria associated with definitive data, screening data without associated confirmation data are not considered to be data of known quality.

- Definitive Data - Definitive data were generated using rigorous analytical criteria, such as approved USEPA reference methods. Data are analyte-specific, with confirmation of analyte identity and concentration. These methods produce tangible raw data (e.g., chromatograms, spectra, digital values) in the form of paper printouts or computer-generated electronic files. Data may be generated at the site or at an off-site location, as long as the QA/QC requirements are satisfied. For the data to be definitive, either analytical or total measurement error must be determined.

The methods of analysis selected for samples collected from NAS Fort Worth JRB produced screening as well as definitive data. The data generated by the laboratory analysis of samples were sufficiently sensitive to allow comparison of the results to the TNRCC RRS. The 2000 Basewide QAPP (HydroGeoLogic, 2000c) describes each method that was performed as part of the investigation and outlines the QA measures followed by the contract laboratory. A data quality assessment of the analytical data collected during the AOC 19 SI is presented as Appendix B.

1.6 REPORT ORGANIZATION

The remainder of this document is divided into the following sections:

Section 2.0 summarizes the installation and site-specific environmental settings for this SI.

Section 3.0 summarizes previous investigations as well as the activities that were conducted during this SI.

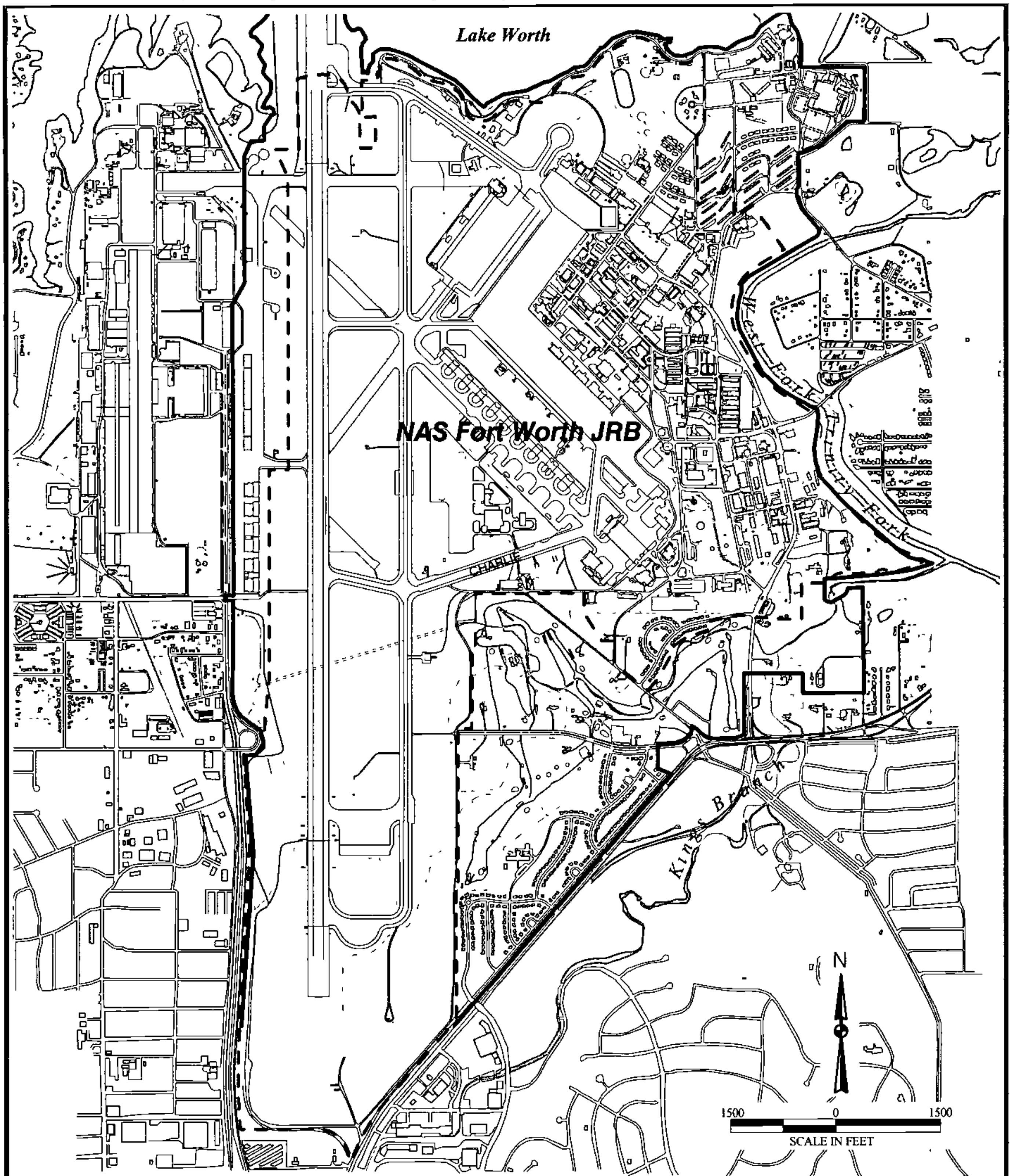
Section 4.0 presents the results of the SI and the potential releases to the environment.

Section 5.0 presents a discussion and analysis of the results presented in Section 4.0.

Section 6.0 presents the conclusions and recommendations for closure based on the results presented in Section 4.0.

Section 7.0 presents the references associated with the preparation of this report.

FIGURES



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Created 10/18/00 jbelcher
Revised 02/27/02 jb
Source HydroGeoLogic, Inc—GIS Database

HYDRO GeoLogic Inc.

Legend

NAS Fort Worth JRB Boundary

Former Carswell AFB Boundary

Area of Concern 19

Figure 1.1

Location of AOC 19
NAS Fort Worth JRB, Texas

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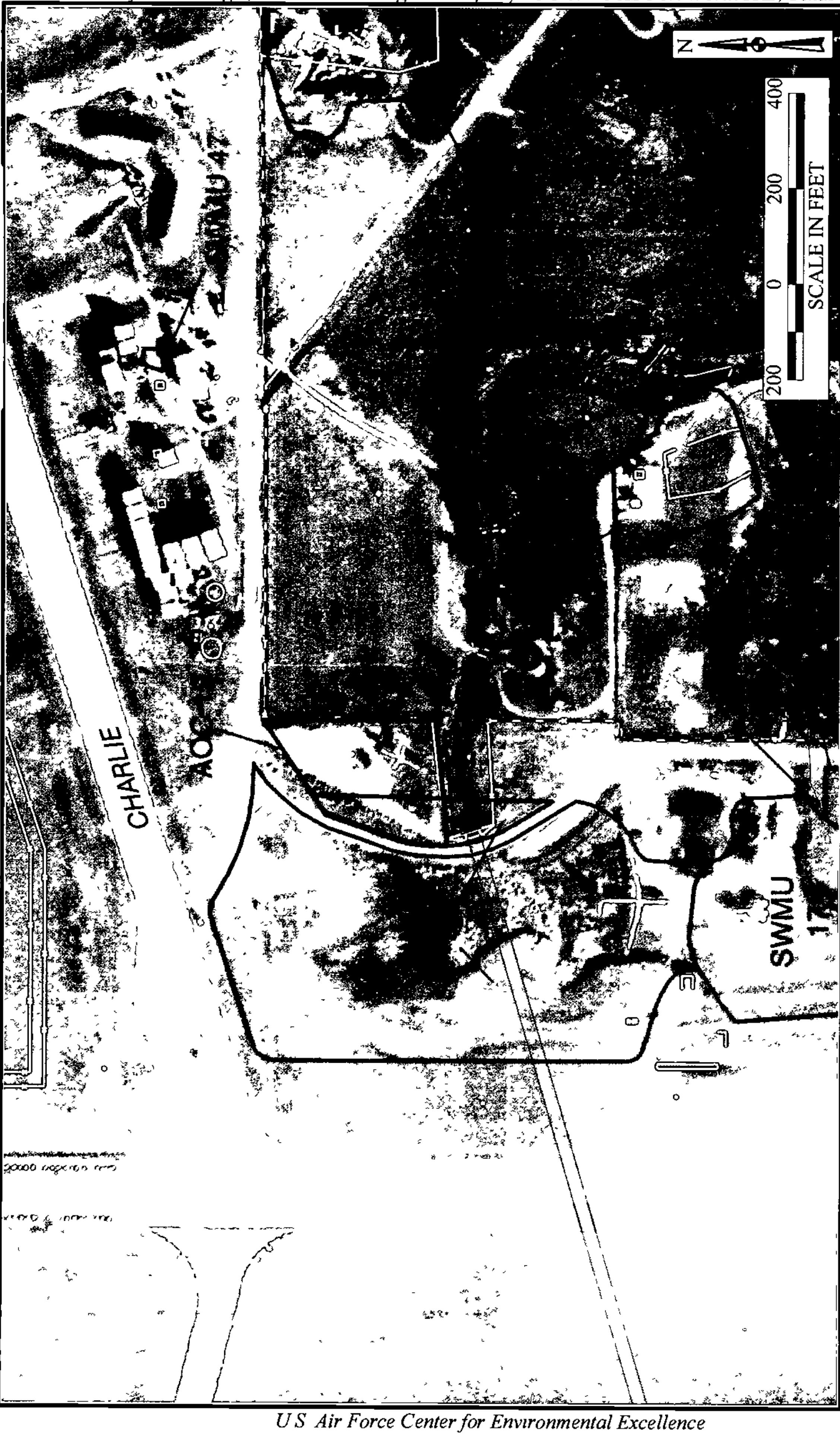

Figure 1.2
Historic Location of AOC 19
Suspected Former Fire Training
Area B
December 3, 1958

Legend

SWMU

AOC

Surface Water

NAS Fort Worth JRB Boundary

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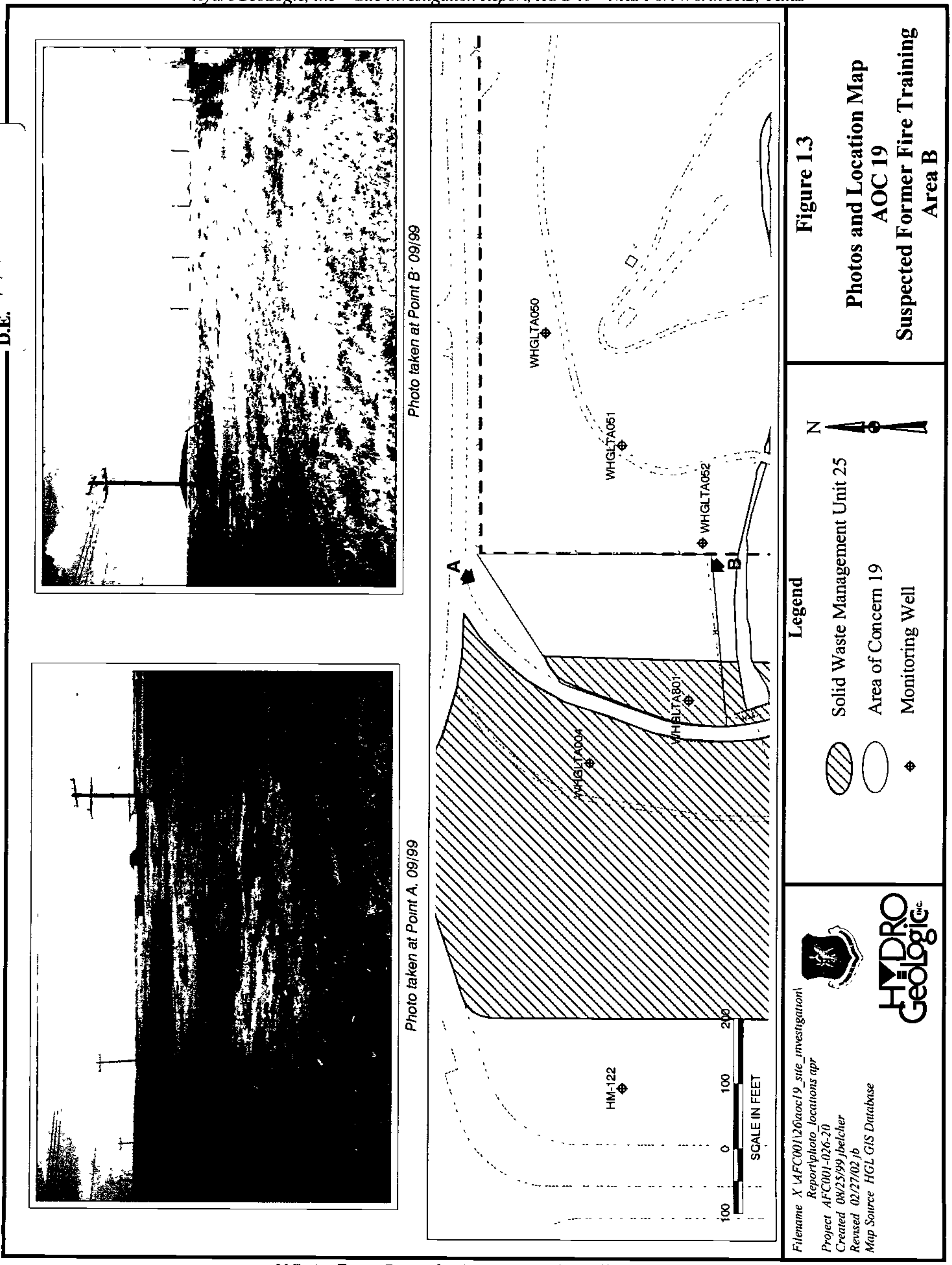


Figure 1.3

Photos and Location Map AOC 19 Suspected Former Fire Training Area B

TAB

SECTION 2.0

2.0 SUMMARY OF EXISTING INFORMATION

The climate, physiography, geology, hydrology, biology, and demographics of the NAS Fort Worth JRB area are described in the following sections.

2.1 INSTALLATION ENVIRONMENTAL SETTING

2.1.1 Physiographic Province

NAS Fort Worth JRB is located along the border zone between two physiographic provinces The southeastern part of the base is situated within the Grand Prairie section of the Central Lowlands Physiographic Province. Most of NAS Fort Worth JRB is located within this province. This region is characterized by broad, eastward-sloping terrace surfaces that are interrupted by westward-facing escarpments. The land surface is typically grass covered and treeless except for isolated stands of upland timber. The northwestern part of the NAS Fort Worth JRB area is situated within the Western Cross Timbers Physiographic Province. This area is characterized by rolling topography and a heavy growth of post and blackjack oaks (Radian, 1989a,b). Surface elevations for this region range from about 850 feet above National Geodetic Vertical Datum (NGVD) west of the base to approximately 550 feet above NGVD along the eastern side of the base. Figure 2.1 is a section of the Lake Worth, Texas, U.S. Geological Survey topographic map showing the relief of the NAS Fort Worth JRB/Air Force Plant 4 (AFP 4) region.

2.1.2 Regional Geology

The geologic units of interest for the region, from youngest to oldest, are as follows: (1) the Quaternary Alluvium (including fill material and terrace deposits), (2) the Cretaceous Goodland Limestone, (3) the Cretaceous Walnut Formation, (4) the Cretaceous Paluxy Formation, (5) the Cretaceous Glen Rose Formation, and (6) the Cretaceous Twin Mountains Formation. A generalized cross section of the geology beneath NAS Fort Worth JRB is presented in Figure 2.2 (Radian, 1989a,b). The areal limits of surface exposure of these units at NAS Fort Worth JRB are shown in Figure 2.3. Cross section locations and individual cross sections at NAS Fort Worth JRB are presented in Figures 2.4 through 2.7 (CH2M HILL, 1996). The regional dip of the stratigraphic units beneath NAS Fort Worth JRB is between 35 and 40 feet per mile in an easterly to southeasterly direction. NAS Fort Worth JRB is located on the relatively stable Texas Craton, west of the faults that lie along the Ouachita Structural Belt. No major faults or fracture zones have been mapped near the base.

2.1.3 Groundwater

The water-bearing geologic formations located in the NAS Fort Worth JRB area may be divided into the following five hydrogeologic units, listed from the shallowest to the deepest: (1) an upper perched-water zone occurring in the alluvial terrace deposits associated with the Trinity River, (2) an aquitard of predominantly dry limestone of the Goodland and Walnut

Formations, (3) an aquifer in the Paluxy Sand, (4) an aquitard of relatively impermeable limestone in the Glen Rose Formation, and (5) a major aquifer in the sandstone of the Twin Mountains Formation. Each of these units is examined more explicitly in the following paragraphs. The relationship between these hydrogeologic units and geologic units is illustrated in Figure 2.8 (Radian, 1989a,b).

2.1.3.1 Alluvial Terrace Deposits

The uppermost groundwater in the area occurs within the pore space of the grains of coarse sand and gravels deposited by the Trinity River. In some parts of Tarrant County, primarily in those areas adjacent to the Trinity River, groundwater from the terrace deposits is used for irrigation and residential use. Groundwater from the terrace deposits is rarely used as a source of potable water due to its limited distribution and susceptibility to surface/storm water pollution (CH2M HILL, 1984).

Recharge to the water-bearing deposits occurs through infiltration from precipitation and from surface water bodies. Extensive on-site pavement and construction restricts this recharge. Additional recharge, however, comes from leakage in water supply lines, sewer systems, storm drains, and cooling water systems. In 1991, this leakage was calculated to be in excess of approximately 115.5 million gallons for NAS Fort Worth JRB and AFP 4 (General Dynamics Facility Management, 1992). This inflow of water to the shallow aquifer effects local groundwater flow patterns and contamination transport, along with increasing hydraulic head, which acts as the force to potentially drive water into lower aquifer systems. The estimated hydraulic conductivity of the alluvial aquifer is 4.57 gallons per day per square foot (gpd/ft^2) (Radian, 1989a,b).

This flow between aquifers is restricted by the Goodland/Walnut Formations; therefore, the alluvial terrace groundwater is not hydraulically connected to the underlying aquifers at NAS Fort Worth JRB. The primary water flow in the terrace deposits is generally eastward toward the West Fork Trinity River, although localized variations exist across the entire site. The hydraulic gradient across the base is variable, reflecting variations in the flow direction and localized recharge. Discharge from the aquifer occurs into surface water on-site, specifically Farmers Branch Creek.

Potentiometric surface maps of NAS Fort Worth JRB and AFP 4 alluvial terrace groundwater are presented as Figure 2.9 and Figure 2.10 for April 2001 and October 2001 groundwater elevation data, respectively. Both maps show an easterly trend in groundwater flow over the area of NAS Fort Worth JRB toward the West Fork Trinity River (HydroGeoLogic, 2001c).

2.1.3.2 Goodland/Walnut Aquitard

The groundwater within the terrace deposits is isolated from groundwater within the lower aquifers by the low permeability of the Goodland Limestone and Walnut Formations. The primary inhibitors to vertical groundwater movement within these units are the fine-grained clay and shale layers that are interbedded with layers of limestone. Some groundwater movement does occur between the individual bedding planes of both of these units, but the vertical hydraulic conductivity has been calculated to range between 1.2 x 10^{-9} centimeters per second (cm/sec) to 7.3 x 10^{-11} cm/sec for the NAS Fort Worth JRB and AFP 4 area. This corresponds to a vertical flow rate that ranges between 1.16 x 10^{-3} feet per day (ft/d) to 5.22 x 10^{-3} ft/d (Environmental Science and Engineering Incorporated [ESE], 1994).

At the AFP 4 "window area," the Goodland/Walnut aquitard is breached, and the alluvial terrace groundwater is in direct contact with the groundwater in the Paluxy aquifer. Several wells and borings have been advanced at NAS Fort Worth JRB to the Goodland/Walnut aquitard. There is no evidence that a similar window exists on the base property. All five monitoring wells that fully penetrate the Paluxy aquifer on NAS Fort Worth JRB property are represented in cross sections (Figures 2.5 through 2.7). These wells are USGS01P, USGS05P, USGS06P, USGS07P, and Paluxy 1 (P1).

2.1.3.3 Paluxy Aquifer

The Paluxy aquifer is an important source of potable groundwater for the Fort Worth area. Many of the surrounding communities, particularly White Settlement, obtain their municipal water supplies from the Paluxy aquifer. Groundwater from the Paluxy is also used in some of the surrounding farms and ranches for agricultural purposes. Due to the extensive use of the Paluxy aquifer, water levels have declined significantly over the years. Water levels in the NAS Fort Worth JRB vicinity have not decreased as much as in the Fort Worth area due to its proximity to the Lake Worth recharge area and the fact that the base does not obtain water from the Paluxy aquifer. Drinking water at the base is supplied by the city of Fort Worth, which uses Lake Worth as its water source. The groundwater of the Paluxy aquifer is contained within the openings created by gaps between bedding planes, cracks, and fissures in the sandstones of the Paluxy Formation. Just as the Paluxy Formation is divided into upper and lower sand members, the aquifer is likewise divided into upper and lower aquifers. The upper sand is finer grained and contains a higher percentage of shale than the lower sand. In 1989, Radian estimated the hydraulic conductivity and transmissivity to be 130 to 140 gpd/ft^2 and 1,263 to 13,808 gallons per day per foot (gpd/ft), respectively.

2.1.3.4 Glen Rose Aquitard

Below the Paluxy aquifer are the fine-grained limestone, shale, marl, and sandstone beds of the Glen Rose Formation. The thickness of the formation ranges from 250 to 450 feet. Although the sands in the Glen Rose Formation yield small quantities of groundwater in the area, the relatively impermeable limestone acts as an aquitard, restricting water movement between the Paluxy aquifer above and the Twin Mountains aquifer below.

2.1.3.5 Twin Mountains Aquifer

The Twin Mountains Formation is the oldest and deepest water supply source used in the NAS Fort Worth JRB area. The Twin Mountains Formation occurs approximately 600 feet below NAS Fort Worth JRB, with a thickness of between 250 to 430 feet. Recharge to the Twin Mountains aquifer occurs west of NAS Fort Worth JRB, where the formation out crops. Groundwater movement is eastward in the downdip direction. The Twin Mountains groundwater occurs under unconfined conditions in the recharge area and becomes confined as it moves downdip. Transmissivities in the Twin Mountains aquifer range from 1,950 to 29,700 gpd/ft and average 8,450 gpd/ft in Tarrant County. Hydraulic conductivities range from 8 to 165 gpd/ft^2 and average 68 gpd/ft^2 in Tarrant County (CH2M HILL, 1984).

2.1.3.6 Water Well Survey Results

An inventory of water supply wells within a one-half-mile radius of the NAS Fort Worth JRB boundary was conducted by HydroGeoLogic in 1997. Figure 2.11 illustrates the locations of 59 wells that were identified from TWC records. All of these wells were installed and completed in the Paluxy aquifer or the Twin Mountains aquifer. No active water wells are located on NAS Fort Worth JRB property. Water is supplied to the base by the city of Fort Worth, which obtains water from Lake Worth.

2.1.4 Surface Water

The topography of NAS Fort Worth JRB is fairly flat except for the lower lying areas along the tributaries of the Trinity River. The land surface slopes gently northeastward toward Lake Worth and eastward toward the West Fork Trinity River. Surface elevations range from about 690 feet above NGVD at the southwest corner of the base to approximately 550 feet above NGVD, along the eastern side of the base.

NAS Fort Worth JRB is located within the Trinity River Basin, adjacent to Lake Worth. The lake is a man-made reservoir created by damming the Trinity River at a point just northeast of the base. The surface area of the lake is approximately 2,500 acres. Lake Worth receives a limited amount of storm water runoff from NAS Fort Worth JRB during and immediately after rainfall events. Elevation of the water surface is fairly consistent at approximately 594 feet above NGVD, the fixed elevation of the dam spillway. Part of the eastern boundary of NAS Fort Worth JRB is defined by the West Fork Trinity River. River flow is towards the southeast into the Gulf of Mexico. Because the Trinity River has been dammed, the 100- and 500-year flood plains do not extend more than 400 feet from the center of the river or any of its tributaries.

Surface drainage is mainly east towards the West Fork Trinity River. The base is partly drained by Farmers Branch Creek, a tributary of the West Fork Trinity River. Farmers Branch Creek begins within the community of White Settlement and flows eastward. Just south of AFP 4, Farmers Branch Creek flows under the runway within two large culverts identified as an aqueduct. Most of the base drainage is intercepted by a series of storm drains and culverts, directed to oil/water separators (OWSs), and discharged to the West Fork Trinity River downstream of Lake Worth. A small portion of the north end of the base drains directly into Lake Worth.

NAS Fort Worth JRB currently has three storm water discharge points that are subject to National Pollution Discharge Elimination System (NPDES) requirements. Each discharge point is monitored weekly for chemical oxygen demand, oil and grease, and pH. The permit has been violated on numerous occasions. In 1979, these violations prompted the USEPA to formally demand a corrective action (CH2M HILL, 1984). Several additional sampling points were established to determine the flow of pollutants onto and off of the base. Samples were collected for a variety of parameters as circumstances (spills, fish kills, odors, and oil sheen) dictated (Radian, 1989a,b).

2.1.5 Climate

The climate in the Fort Worth area is classified as sub-humid with hot summers and dry winters. Tropical maritime air masses control the weather during much of the year, but the passage of polar cold fronts and continental air masses can create large variations in winter temperatures (TNRCC, 1996b). In the Dallas-Fort Worth area, daily mean temperatures range from 43.4 degrees Fahrenheit (°F) in January to 85.3 °F in July. The highest recorded temperature is 113 °F, and the lowest temperature is 2 °F. Freezing temperatures occur on average of 25 days in the year (National Climatic Data Center (NCDC), 2000).

Average relative humidity (after noon) ranges from 51 percent (September and October) to 62 percent (January) (NCDC, 2000). Mean annual precipitation recorded at the base is approximately 34.73 inches. The wettest months are May and October, with a secondary maximum in June. The period from November to March is generally dry, with a secondary minimum in August. Snowfall accounts for a small percentage of the total precipitation between November and March. Thunderstorm activity occurs at the base an average of 45 days per year, with the majority of the activity between April and June. Hail may fall 2 to 3 days per year. The maximum precipitation ever recorded in a 24-hour period is 1.49 inches. On the average, measurable snowfall occurs 5 days per year.

During 2001, the average annual temperature in the area was 65.6 °F, and monthly mean temperatures varied from 42.7 °F in January to 86.7 °F in July. The average daily minimum temperature in January was 33 °F, and the lowest recorded temperature was 19 °F. The average daily maximum temperature was 96.7 °F, and highest temperature recorded at the base during 2001 was 100 °F in the month of July. Freezing temperatures occur at NAS Fort Worth JRB an average of 11 days per year. (National Weather Service, 2002).

Lake evaporation near NAS Fort Worth JRB is estimated to be approximately 57 inches per year. Evapotranspiration over land areas may be greater or less than lake evaporation depending on vegetative cover type and moisture availability. Average net precipitation is expected to be equal to the difference between average total precipitation and average lake evaporation, or approximately minus 25 inches per year. Mean cloud cover averages 50 percent at NAS Fort Worth JRB, with clear weather occurring frequently during the year. Some fog is present an average of 83 days per year. Wind speed averages 7 knots; however, a maximum of 80 knots has been recorded. Predominant wind direction is from the south-southwest throughout the year (TNRCC, 1996b).

2.1.6 Biology

Approximately 374 acres, or 14 percent, of NAS Fort Worth JRB is considered unimproved, indicating the presence of seminatural to natural biological/ecological conditions. The base lies in the Cross Timbers and Prairies Regions of Texas, where native vegetation is characterized by alternating bands of prairies and woodlands. The higher elevations on the base are covered by native and cultivated grasses such as little bluestem, Indian grass, big bluestem, side oats, grama, and buffalo grass. Forested areas occur primarily on the lower land and along the banks of streams. Common wood species include oak, elm, pecan, hackberry, and sumac. Several non-native species such as catalpa and chinaberry are common (Radian, 1989a,b).

Typical wildlife on the base includes black-tailed jackrabbits in grassy areas along the runway. In addition, there are cottontail rabbits, gray squirrels, and opossums in the wooded areas. Common birds include morning doves, meadowlarks, grackles, and starlings. Hunting and trapping are not allowed on the base, but in the nearby rural areas they are a very popular form of recreation (Radian, 1989a,b).

Reported game fish include black bass, sunfish, and catfish, all of which can be found in Lake Worth, Farmers Branch Creek, and one small pond located on base near the golf course equipment shed. According to the Texas Department of Parks and Wildlife and the U.S. Fish and Wildlife Service, there are no threatened or endangered species known to occur on NAS Fort Worth JRB. None of the federally listed endangered plant species for Texas are known to occur within 100 miles of Tarrant County. Of the federally listed endangered animals species, only the peregrine falcon and the whooping crane are known to occasionally inhabit the area; however, none of these is suspected to reside in the vicinity of NAS Fort Worth JRB (Radian, 1989a,b).

2.1.7 Demographics

The following sections describe the regional and site-specific demographics as they relate to the Fort Worth, Texas area and NAS Fort Worth JRB.

2.1.7.1 Regional Demographics

Approximately 1,278,606 people reside within Tarrant County, Texas (U.S. Department of Commerce, 1996). Of this population, 485,650 reside within the city limits of Fort Worth.

Several smaller cities and villages make up the remainder of the population. The communities of White Settlement, Lake Worth, Westworth Village, River Oaks, and Sansom Park lie within a 3- mile radius of NAS Fort Worth JRB. The following populations that reside in the cities and villages are based on 1994 census data: White Settlement (city) 16,502; Lake Worth (city) 4,694; Westworth Village (town) 2,502; River Oaks (city) 6,747; and Sansom Park (city) 4,136 (U.S. Department of Commerce, 1994). Six schools are within a 2-mile radius of NAS Fort Worth JRB; the closest is 0.5 miles south (Rust, 1995).

The area surrounding NAS Fort Worth JRB is highly urbanized due to its proximity to the city of Fort Worth. The area is composed of a combination of residential, commercial, and light industrial properties that employ the majority of local residents (Rust, 1995).

2.1.7.2 Site-Specific Demographics

The current full-time population at NAS Fort Worth JRB is approximately 3,600 people, comprising 400 officers, 1,400 civilians, and 1,800 active reservists. Part-time military reservists will increase this population to over 6,000 military personnel (CH2M HILL, 1996).

Approximately 86 percent of NAS Fort Worth JRB has been developed by way of buildings, roads, parking lots, runways, and housing and recreational areas. On-site activities include various maintenance, inspection, and support activities for fuel systems, weapons, jet engines, aerospace ground equipment (AGE), and specialized ground equipment (HydroGeoLogic, 1999).

2.2 SITE-SPECIFIC ENVIRONMENTAL SETTING

The following sections describe the site-specific environmental setting of NAS Fort Worth JRB.

2.2.1 Site-Specific Soils

The U.S. Soil Conservation Service has identified four major soil associations in the area of NAS Fort Worth JRB. The first association is the surficial soils of the nearly level to gently sloping clayey soils of the Sanger-Purves-Slidell Association. Second is the Aledo-Bolar-Sanger Association, which is located within the southwestern portion of the Sanger-Purves-Slidell Association and is characterized as an increasingly loamy clayey soil of gentle to moderate slope. The third association, the Bastsil-Silawa Association separates the Sanger-Purves-Slidell Association from the Frio-Trinity Association. The Bastsil-Silawa Association is characterized as a sandy clay loam of nearly level slope (ESE, 1994). The clayey soils of the Frio-Trinity Association make up the fourth soil association and are located along the flood plain of the West Fork Trinity River. The areal limits of each of these soil associations and their occurrence on-site are shown in Figure 2.12.

2.2.2 Site-Specific Geology

The majority of NAS Fort Worth JRB is covered by alluvium deposited by the Trinity River during flood stages. The Quaternary Period alluvium (Holocene Epoch) occurs downstream from the Lake Worth Dam in the current flood plain of the West Fork Trinity River, on the east side of the facility. Older alluvial deposits and terrace deposits (Pleistocene Epoch) also occur on-site. The alluvium is composed of gravel, sand, silt, and clay of varying thicknesses and lateral extent. The thickness of these materials ranges from 0 to 60 feet. Fill material is also included within these deposits where landfills, waste pits, excavation sites, and other construction activities have altered the original land surface. This fill material is made up of clay, silt, sand, and gravel mixtures, but may also contain debris and other waste (Radian, 1989a,b).

Below the alluvial terrace deposits are the Cretaceous-age Goodland and Walnut Formations, which form the bedrock surface beneath NAS Fort Worth JRB. Both formations consist of interbedded, fossiliferous, hard limestone and calcareous shale. The upper formation, the Goodland Limestone, is exposed on the southern portion of the base, south of White Settlement Road. The Goodland is a chalky-white, fossiliferous limestone and marl. The thickness of the Goodland Limestone ranges from 20 to 25 feet. Below the Goodland Formation is the Walnut Formation (or Walnut Clay). The Walnut Formation is exposed in a small area along the shores of Lake Worth and Meandering Road Creek. This formation is a shell agglomerate limestone with varying amounts of clay and shale. It ranges in thickness from 25 to 35 feet throughout the site except where erosion has produced a few thinner areas. Subsurface investigations have located troughs and paleochannels that are eroded into the top of the bedrock at NAS Fort Worth JRB. These paleochannels are typical of an erosional surface modified by fluvial processes and are filled with sand and gravel deposits ranging in thickness from 15 to 35 feet (CH2M HILL, 1996).

Below the Walnut Formation is the Paluxy Formation (or Paluxy Sand). The Paluxy Formation underlies all of NAS Fort Worth JRB. The formation consists of several thick sandstone layers that are separated by thin, discontinuous shale and claystone layers. Sandstones in the formation are primarily a fine-to coarse-grained sand with minor amounts of clay, sandy clay, pyrite, lignite, and shale. The lower section of the Paluxy is generally coarser-grained than the upper section (CH2M HILL, 1996). Total formation thickness ranges from 130 to 175 feet, with variable thickness and occurrence of individual layers across the site. Only one unit in this formation, a shale/silty shale, can be extensively mapped across the base.

The older Glen Rose and Twin Mountains Formations are not exposed at NAS Fort Worth JRB. The Glen Rose Formation consists primarily of calcareous sedimentary rock and some sands, clays, and anhydrite. The Glen Rose caps the Twin Mountain Formation, which is the oldest Cretaceous Formation in the NAS Fort Worth JRB area. The Twin Mountain Formation consists of a basal conglomerate of chert and quartz, grading upward into coarse- to fine-grained sand interspersed with varicolored shale.

FIGURES

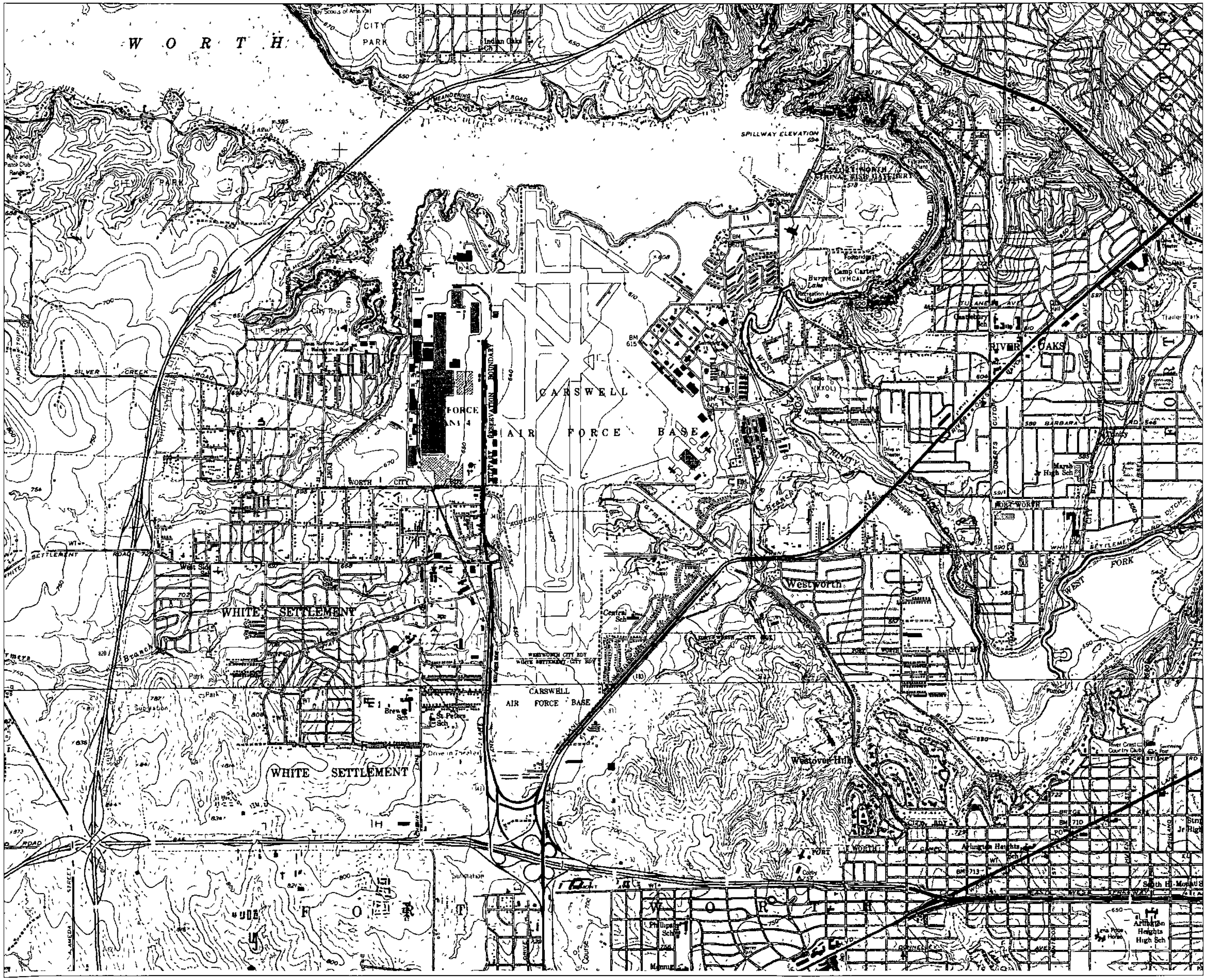


Figure 2.1

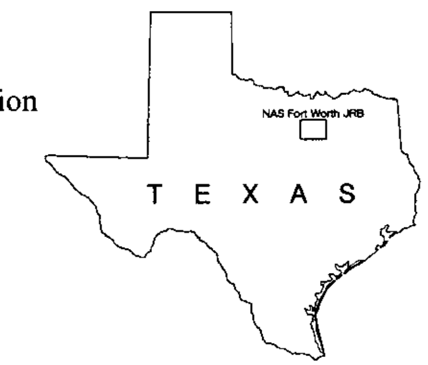
Lake Worth Topographic Map

U.S. Air Force Center for Environmental Excellence

Legend

Area of Concern 19

Site Location



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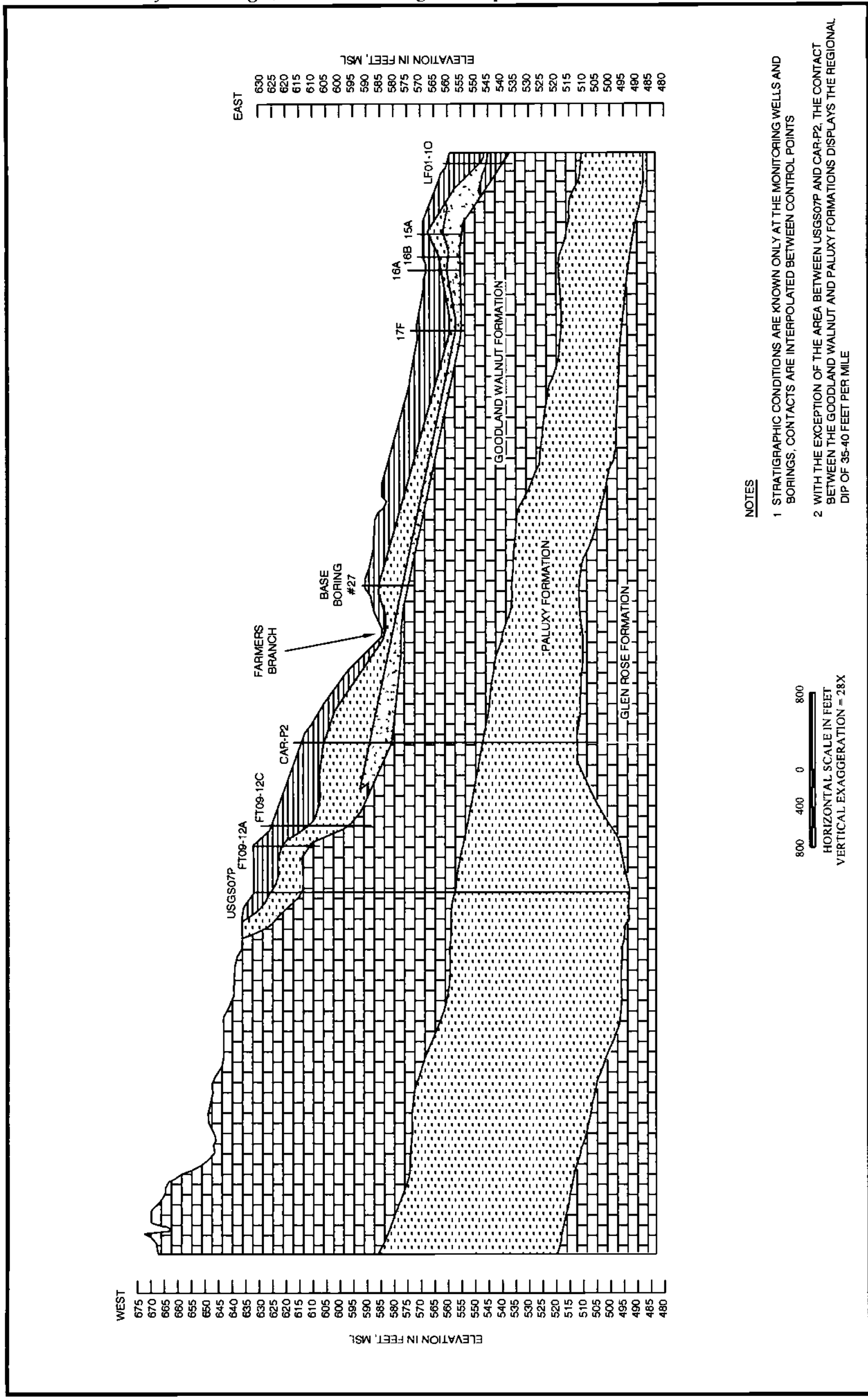

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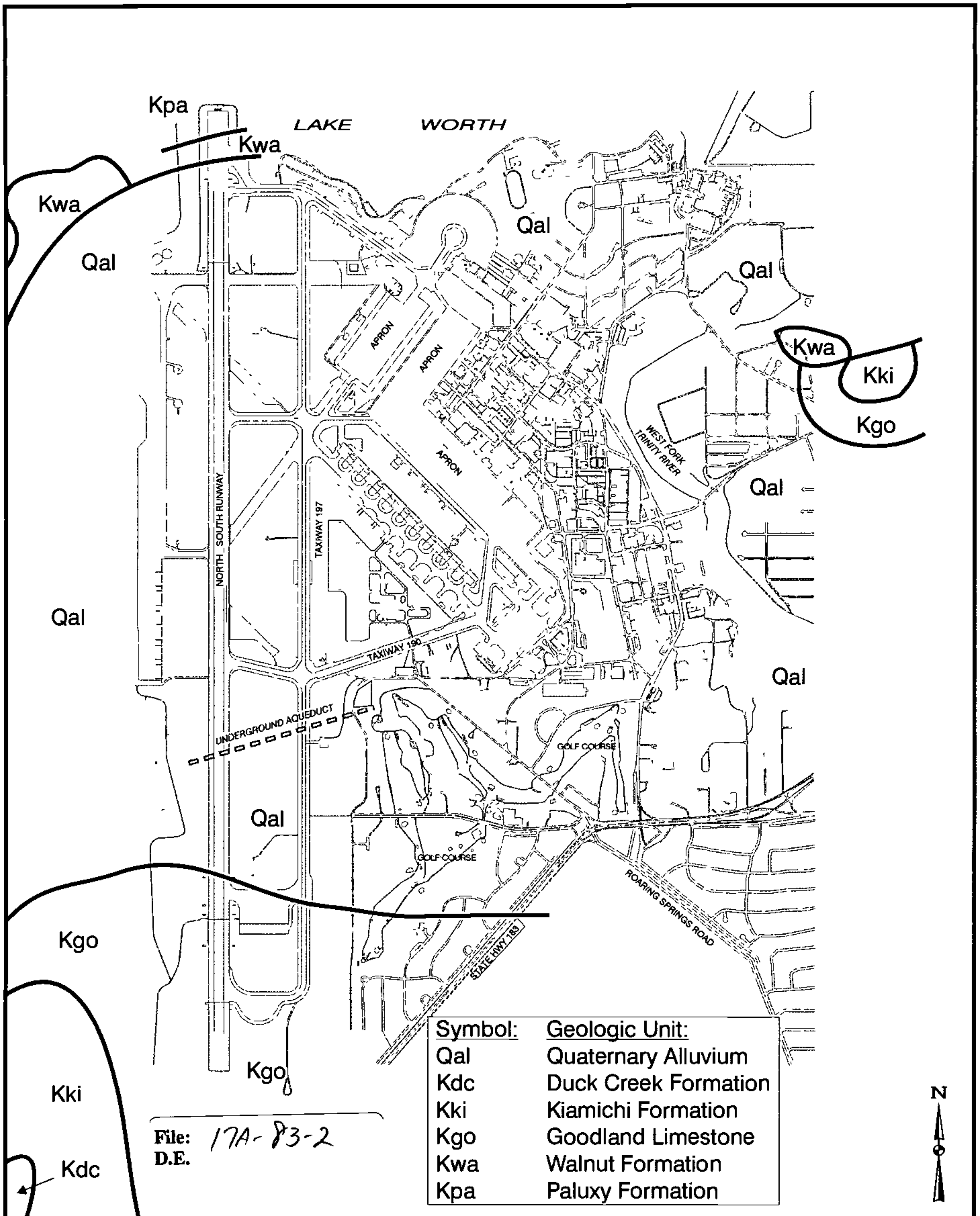
Source Radian, 1986; HGL,1999

HYDRO GeoLogic Inc

Figure 2.2
Generalized Geologic Cross Section of NAS Fort Worth JRB, Texas



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Map Source Radian, 1989

HYDRO GeoLogic INC.

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Area of Concern 19

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Figure 2.3
Areal Distribution of Geologic Units of NAS Fort Worth JRB, Texas

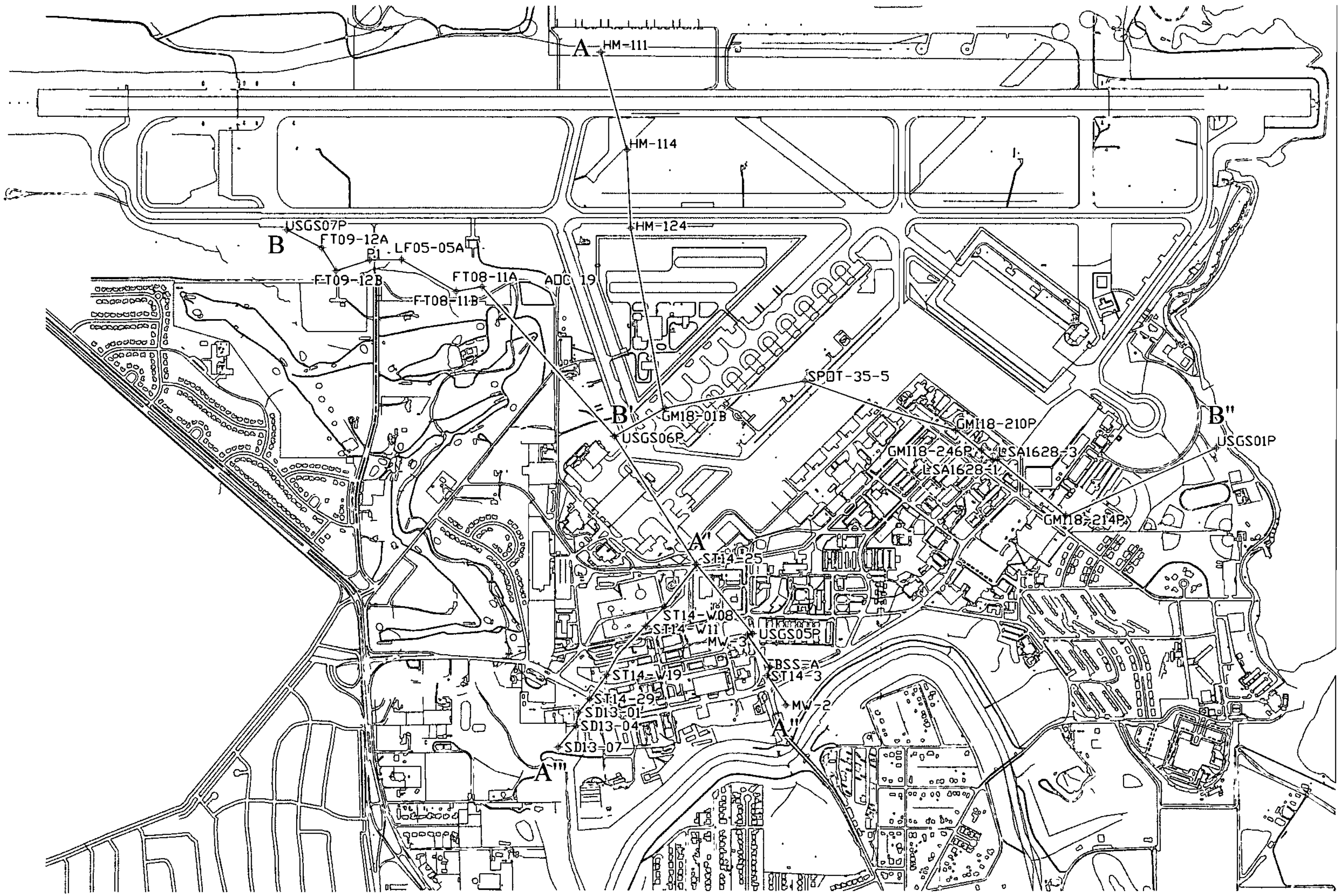

Figure 2.4

Cross Section Location Map

U. S. Air Force Center for Environmental Excellence

Legend

USGS01P Boring Location

A____A' Cross Section Line

Area of Concern 19

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Revised 02/28/02 asp
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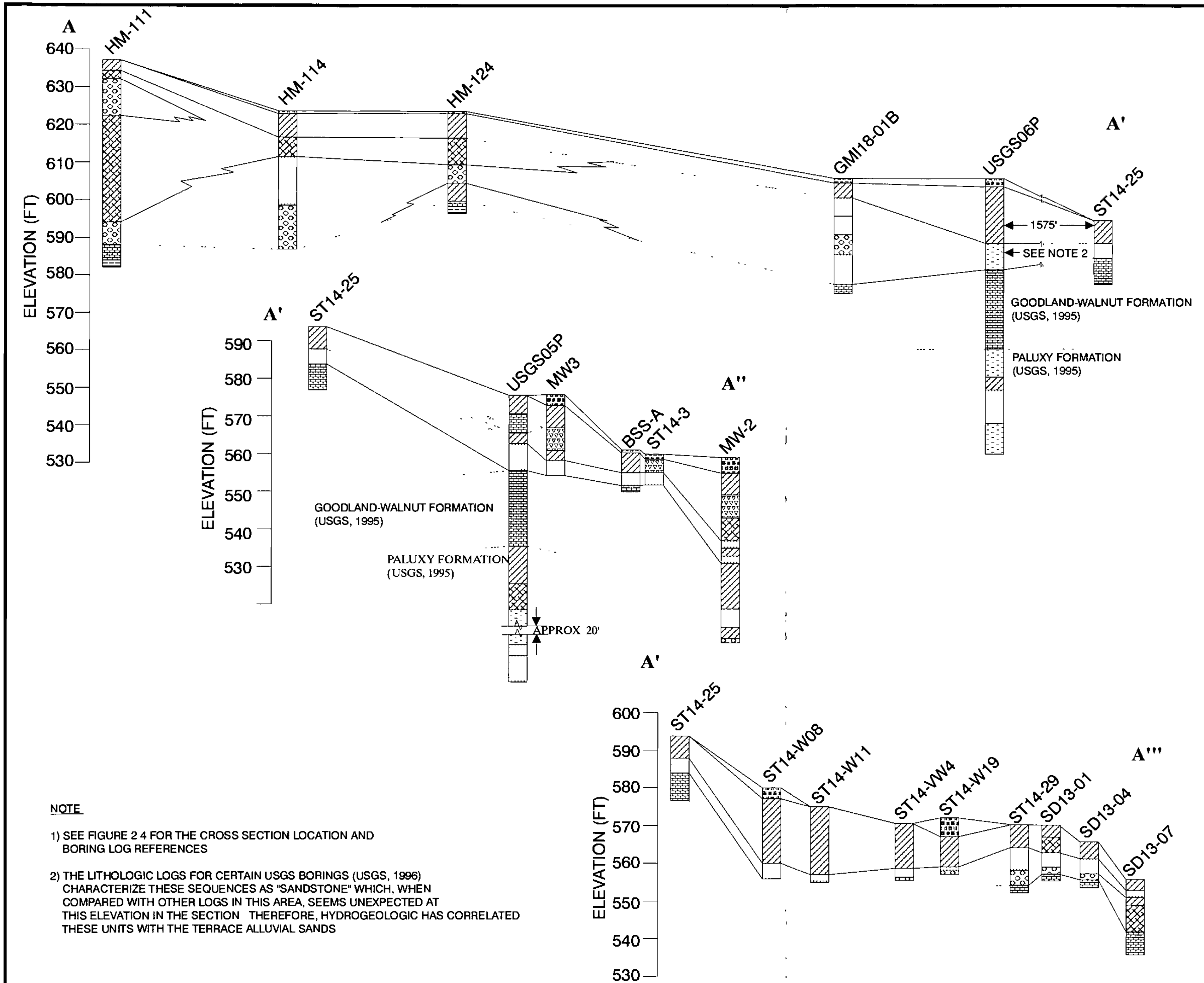
HYDRO GeoLogic INC



NOTE

1) SEE FIGURE 2 4 FOR THE CROSS SECTION LOCATION AND BORING LOG REFERENCES

2) THE LITHOLOGIC LOGS FOR CERTAIN USGS BORINGS (USGS, 1996) CHARACTERIZE THESE SEQUENCES AS "SANDSTONE" WHICH, WHEN COMPARED WITH OTHER LOGS IN THIS AREA, SEEMS UNEXPECTED AT THIS ELEVATION IN THE SECTION THEREFORE, HYDROGEOLOGIC HAS CORRELATED THESE UNITS WITH THE TERRACE ALLUVIAL SANDS

HydroGeoLogic, Inc —Site Investigation Report, AOC 19
NAS Fort Worth JRB, Texas

Figure 2.5

Cross Sections A-A', A'-A'', and A'-A'''

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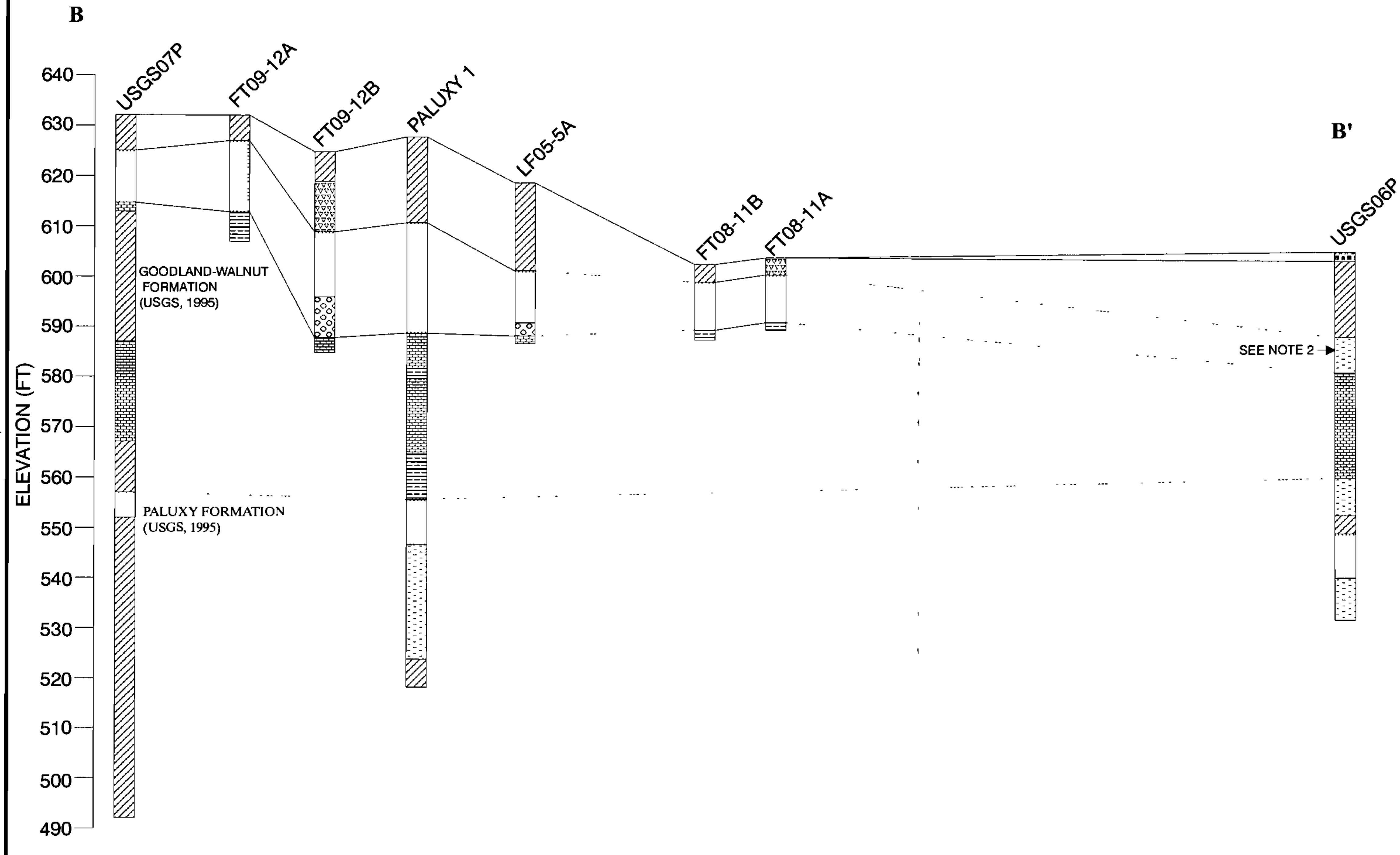
Legend

- Stratigraphic Contact
- Inferred Stratigraphic Contact
- Fine- to Coarse-Grained Sand, Clayey Sand, Silty Sand, Gravelly Sand
- Clay, Silty Clay, Sandy Clay
- Silt, Clayey Silt, Sandy Silt
- Gravelly Clay or Clay w/Limestone
- Fill, Soil, Gravel, Rock
- Coarse Gravel, Silty Gravel, Sandy Gravel
- Limestone
- Claystone/Mudstone/Shale
- Sandstone

0 600 1200
HORIZONTAL SCALE IN FEET

Filename X AFC001\26\aoc19_site_investigation\ Report\A-A _x-sections cdr
Project AFC001-026-20
Revised 02/11/02 asp
Source CH2M HILL, 1996 b

HYDRO GeoLogic INC



NOTE

1) SEE FIGURE 2 4 FOR THE CROSS SECTION LOCATION AND BORING LOG REFERENCES

2) THE LITHOLOGIC LOGS FOR CERTAIN USGS BORINGS (USGS, 1996) CHARACTERIZE THESE SEQUENCES AS "SANDSTONE" WHICH, WHEN COMPARED WITH OTHER LOGS IN THIS AREA, SEEMS UNEXPECTED AT THIS ELEVATION IN THE SECTION THEREFORE, HYDROGEOLOGIC HAS CORRELATED THESE UNITS WITH THE TERRACE ALLUVIAL SANDS

HydroGeoLogic, Inc —Site Investigation Report, AOC 19
NAS Fort Worth JRB, Texas

Figure 2.6

Cross Section B-B'

U.S. Air Force Center for Environmental Excellence

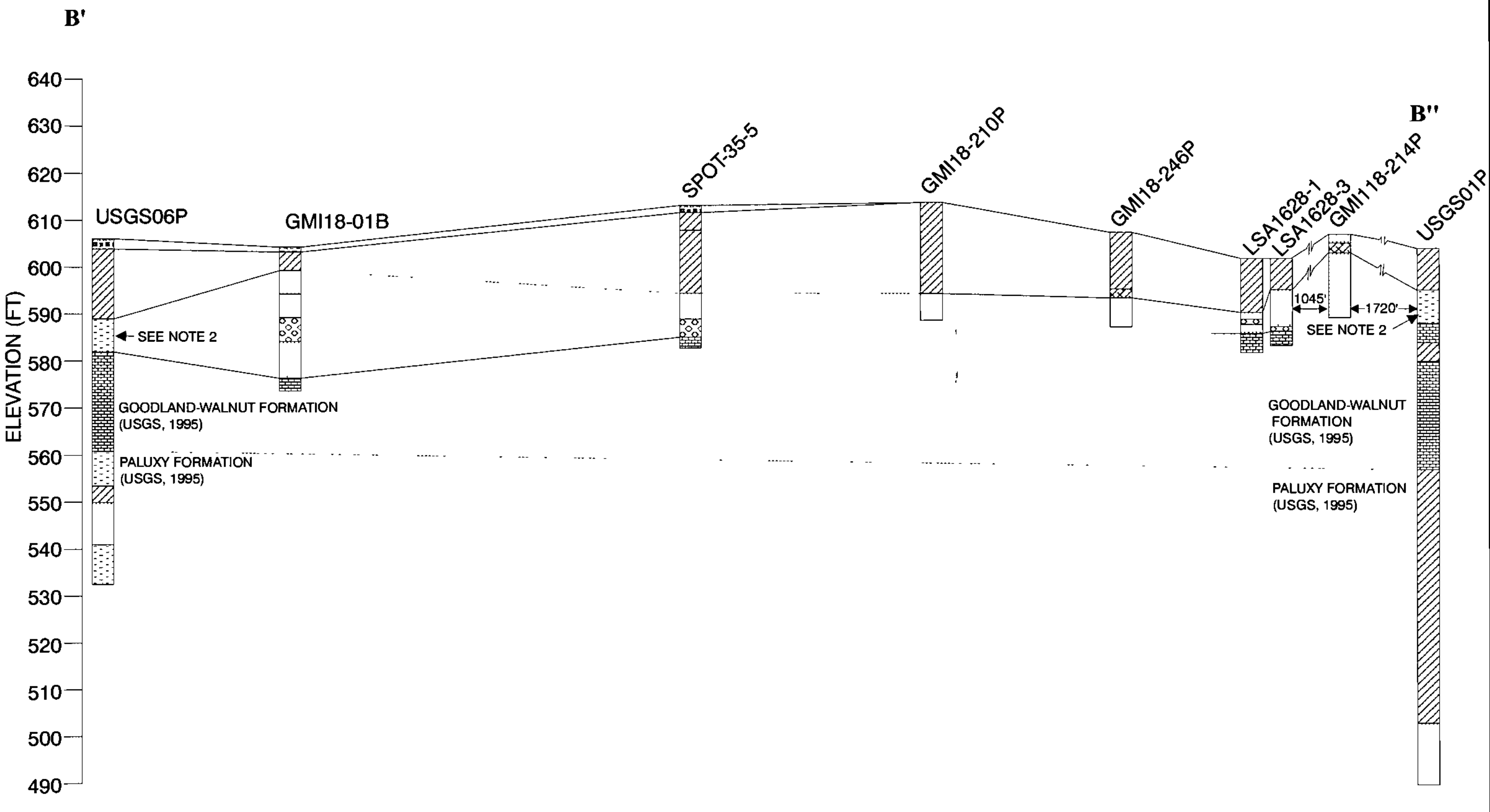
Legend

Filename X AFC001\26\aoc19_site_investigation\Report\B-B'_x-section cdr
Project AFC001-026-20
Revised 02/11/02 asp
Source CH2M HILL, 1996 b

Figure 2.7

Cross Section B'-B"

U.S. Air Force Center for Environmental Excellence



Legend

- Stratigraphic Contact
- Inferred Stratigraphic Contact
- Fine- to Coarse-Grained Sand, Clayey Sand, Silty Sand, Gravelly Sand
- Clay, Silty Clay, Sandy Clay
- Silt, Clayey Silt, Sandy Silt
- Gravelly Clay or Clay w/Limestone
- Fill, Soil, Gravel, Rock
- Coarse Gravel, Silty Gravel, Sandy Gravel
- Limestone
- Claystone/Mudstone/Shale
- Sandstone

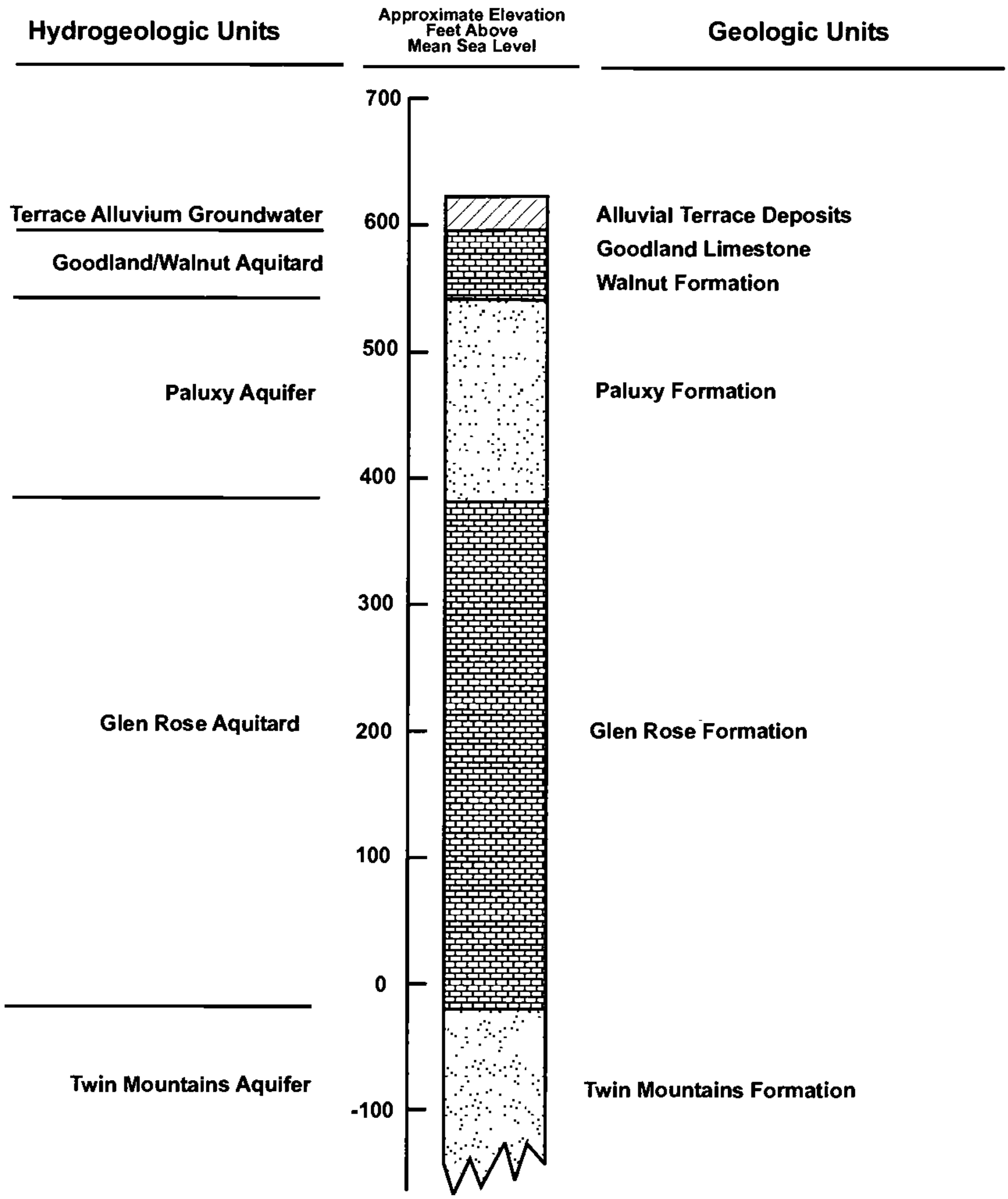
0 600 1200
HORIZONTAL SCALE IN FEET

NOTE

1) SEE FIGURE 2 4 FOR THE CROSS SECTION LOCATION AND BORING LOG REFERENCES

2) THE LITHOLOGIC LOGS FOR CERTAIN USGS BORINGS (USGS, 1996) CHARACTERIZE THESE SEQUENCES AS "SANDSTONE" WHICH, WHEN COMPARED WITH OTHER LOGS IN THIS AREA, SEEMS UNEXPECTED AT THIS ELEVATION IN THE SECTION THEREFORE, HYDROGEOLOGIC HAS CORRELATED THESE UNITS WITH THE TERRACE ALLUVIAL SANDS

Filename X AFC001\26\aoc19_site_investigation\Report\B'-B''_x-section cdr
Project AFC001-026-20
Revised 02/11/02 asp
Source CH2M HILL. 1996



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Project· AFC001-026-20
Revised 02/11/02 asp
Map Source Radian, 1989

Legend

- Alluvium
- Limestone
- Sandstone

Figure 2.8
Stratigraphic Column Correlating Hydrogeologic and Geologic Units

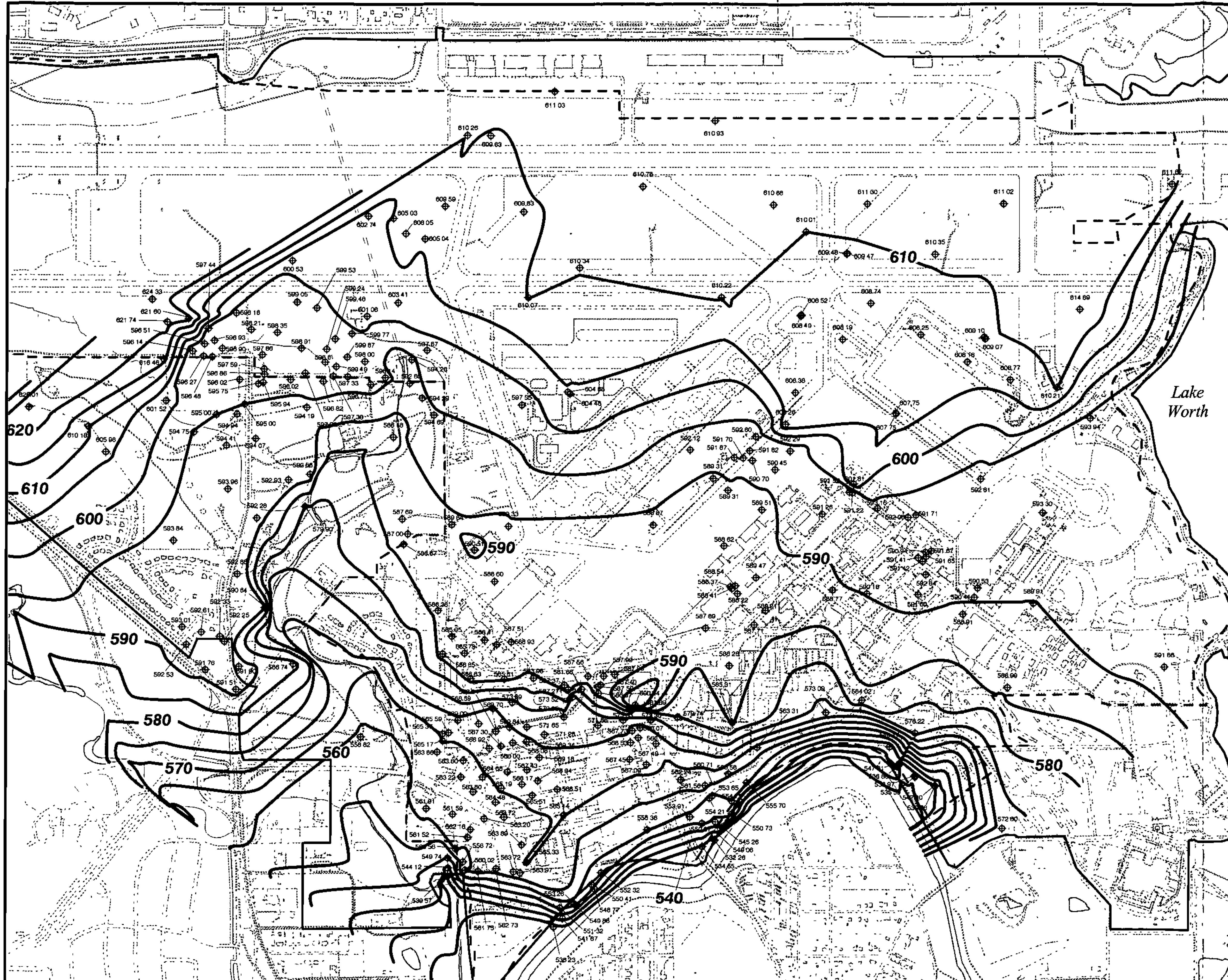


Figure 2.9

Water Level Elevations
Terrace Alluvium
April 2001

U.S. Air Force Center for Environmental Excellence

Legend

- - - - NAS Fort Worth JRB (Carswell Field)

—— Former Carswell Air Force Base

— 600 — Groundwater Elevation Contour (ft msl)

Monitoring Well
533 76 Groundwater Elevation (ft msl)

AOC 19

Building/Structure

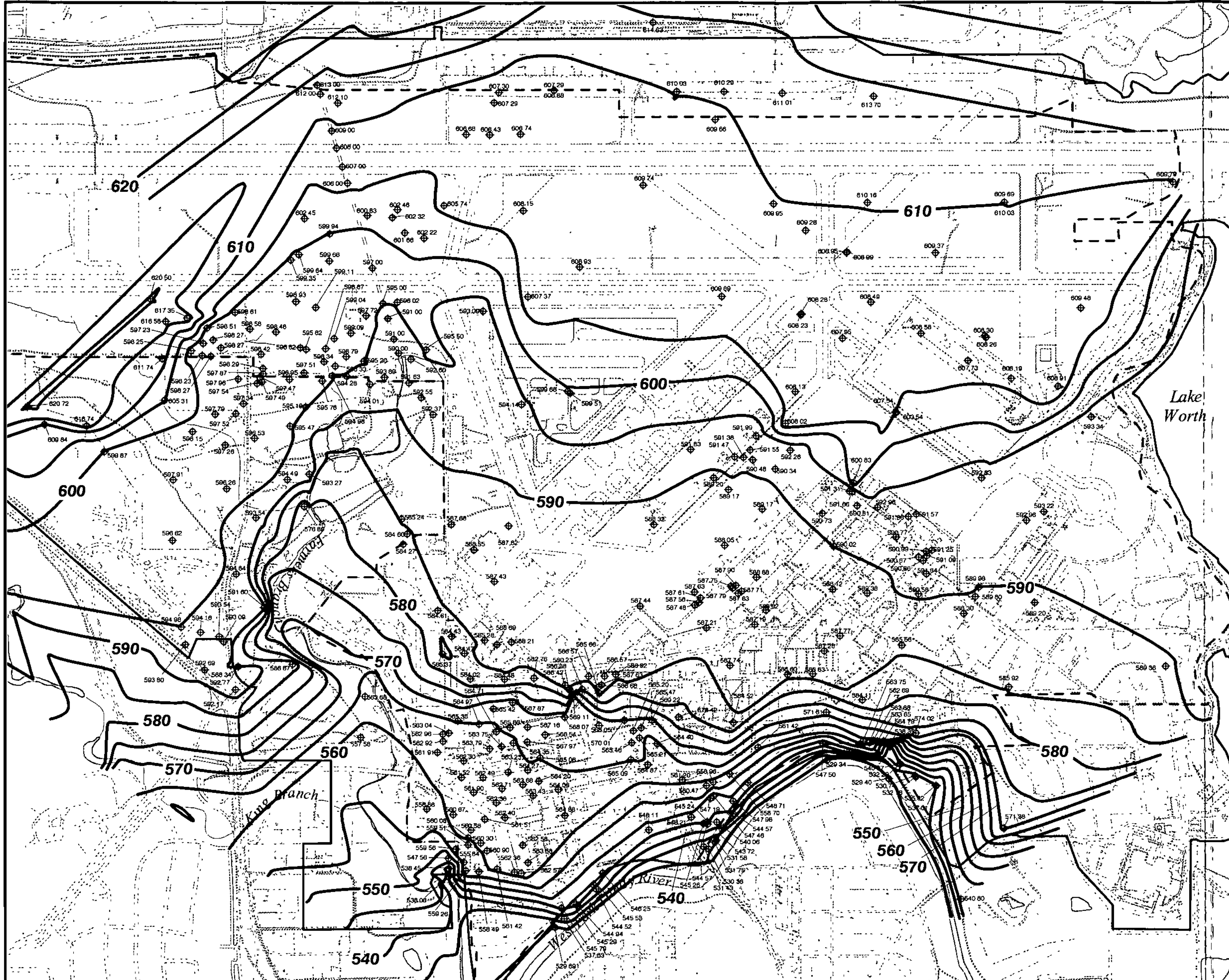
File: 17A-83-2
D.E.

N

0 500 1000 2000
SCALE IN FEET

Filename X \AFC001\26\aoc19_site_investigation\Report\groundwater elev apr2001 apr
Project AFC001-026-22
Created 07/05/01 jbelcher
Revised 05/01/02 tbraswell
MapSource HydroGeoLogic, Inc ArcView GIS Database, 2001

HydroGeoLogic INC



HydroGeoLogic, Inc —Site Investigation Report, AOC 19
NAS Fort Worth JRB, Texas

Figure 2.10

Water Level Elevations
Terrace Alluvium
October 2001

U.S. Air Force Center for Environmental Excellence

Legend

- - - NAS Fort Worth JRB (Carswell Field)

— Former Carswell Air Force Base

— 600 — Groundwater Elevation Contour (ft msl)

Monitoring Well
608 99 Groundwater Elevation (ft msl)

AOC 19

Building/Structure

File: 17A-83-2
D.E.

N

0 500 1000 2000
SCALE IN FEET

Filename X\AFC001\26\aoc19_site_investigation\Report\groundwater elev_oct2001 apr
Project AFC002-026-20
Created 07/05/01 jbelcher
Revised 02/26/02 jb
MapSource HydroGeoLogic, Inc
ArcView GIS Database, 2002

HYDRO GeoLogic INC

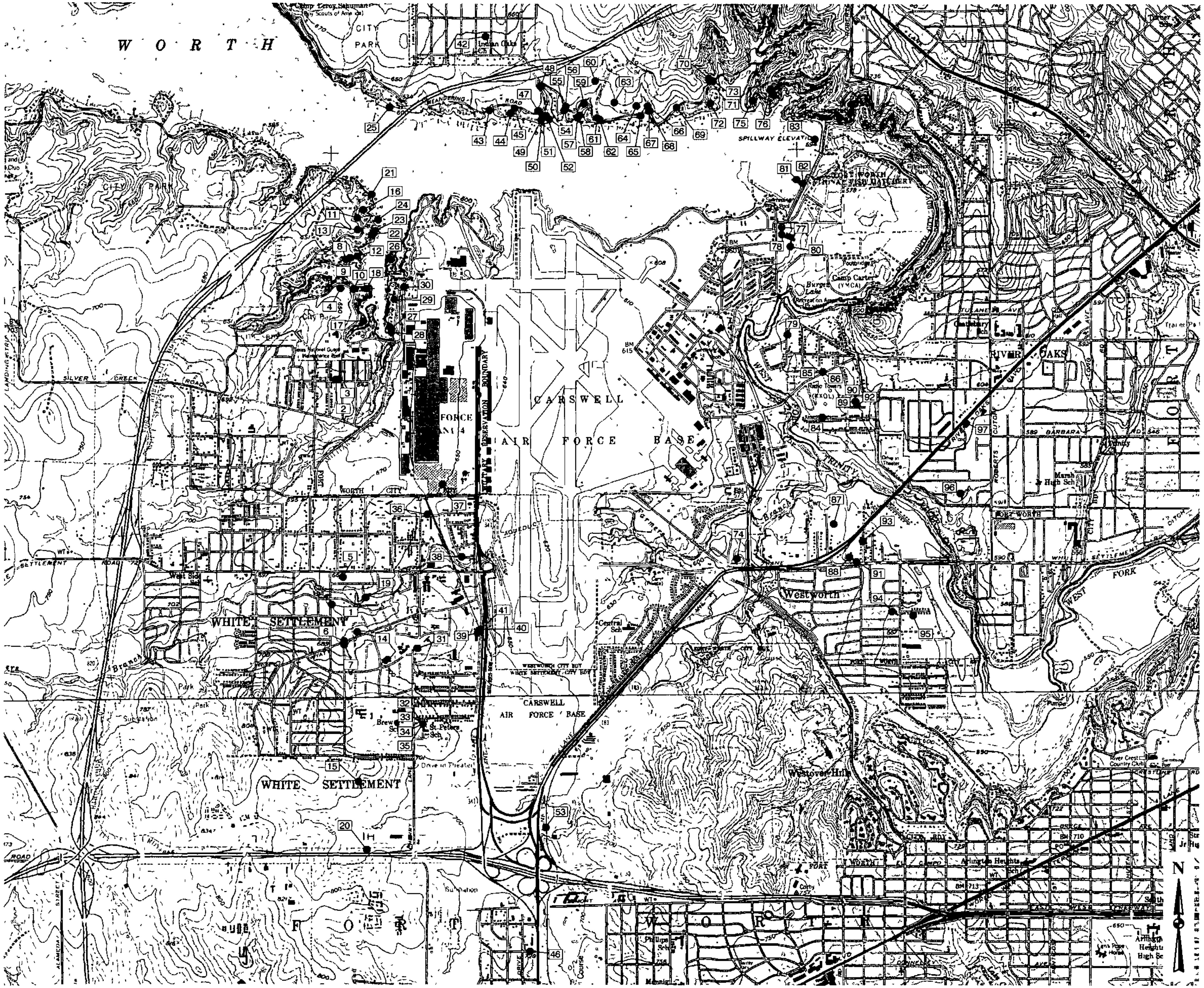


Figure 2.11

Water Well Receptor Survey Within 1 Mile of NAS Fort Worth JRB

U.S. Air Force Center for Environmental Excellence

Legend

Area of Concern 19

Water Well Location

File: 17A83-2
D.E.

MAP ID	STATE WELL ID	WELL TYPE
1	Unnumbered	Domestic
2	32-13-811	Public Supply
3	32-13-808	Public Supply
4	32-13-08	Domestic
5	32-13-7k	Domestic
6	32-13-806	Unused
7	32-13-805	Unused
8	32-13-8	Domestic
9	32-13-4	Domestic
10	32-13-816	Domestic
11	32-13-7X	Domestic
12	32-13-8	Domestic
13	32-13-8	Domestic
14	Unnumbered	Domestic
15	32-21-2	Public Supply
16	32-13-8	Domestic
17	32-13-814	Domestic
18	32-13-819	Domestic
19	32-13-804	Public Supply
20	32-20-6	Domestic
21	32-13-822	Domestic
22	32-13-815	Domestic
23	32-13-820	Domestic
24	32-13-821	Domestic
25	32-13-5	Domestic
26	32-13-818	Domestic
27	32-13-813	Domestic
28	G2200324A	Public Supply
29	32-13-817	Domestic
30	32-13-8	Domestic
31	32-13-7g	Domestic
32	32-21-205	Unused
33	32-21-206	Unused
34	32-21-207	Unused
35	32-21-208	Unused
36	32-13-8c	Domestic
37	32-13-807	Unused
38	32-13-803	Public Supply
39	32-13-812	Public Supply
40	32-13-801	Public Supply
41	32-13-802	Public Supply
42	32-13-5C	Domestic
43	Unnumbered	NA
44	32 13-5	Domestic
45	32-13-7	Domestic
46	32-21-2B	Domestic
47	32-13-5	Domestic
48	32-13-5	Domestic
49	32-13-5	Domestic

MAP ID	STATE WELL ID	WELL TYPE
50	32-13-5	Domestic
51	32-13-5U	Domestic
52	32 24-4	Domestic
53	Unnumbered	Industrial
54	32-13-3	Domestic
55	Unnumbered	Domestic
56	32-13-5	Domestic
57	32-13-5K	Domestic
58	32-13-5K	Domestic
59	32-13-5	Domestic
60	32-13-5B	NA
61	32-13-5	Domestic
62	32-13-5	Domestic
63	32-13-9h	Domestic
64	32-13-5	Domestic
65	32-13-5	Domestic
66	32-13-5F	Domestic
67	32-13-5F	Domestic
68	32-13-5F	Domestic
69	32-13-5	Domestic
70	32-13-5S	Domestic
71	32-13-5S	Domestic
72	32-13-5	Domestic
73	32-13-5S	Domestic
74	32-12-9	Domestic
75	32-13-5	Domestic
76	32-13-5M	Domestic
77	32-13-810	Unused
78	32-13-809	Unused
79	32-13-8	Domestic
80	32-13-9	Domestic
81	S2200012A	Surface Water Intake
82	S2200012B	Surface Water Intake
83	S2200069A	Surface Water Intake
84	32-14-7	Domestic
85	32-13-911	Unused
86	32-13-912	Public Supply
87	32-13-9a	Domestic
88	32-13-917	Public Supply
89	32-13-9	Irrigation
90	32-14-7	Domestic
91	32-13-9	Domestic
92	32-14-7	Domestic
93	32-13-9	Domestic
94	32-13-9	Domestic
95	32-13-9a	Domestic
96	32-13-9	Irrigation
97	32-31-1N	Irrigation

3000 0 3000 6000

SCALE IN FEET

Filename X \AFC001\26\aoc19_site_investigation\Report\water_well_receptor apr
Project AFC001-026-20
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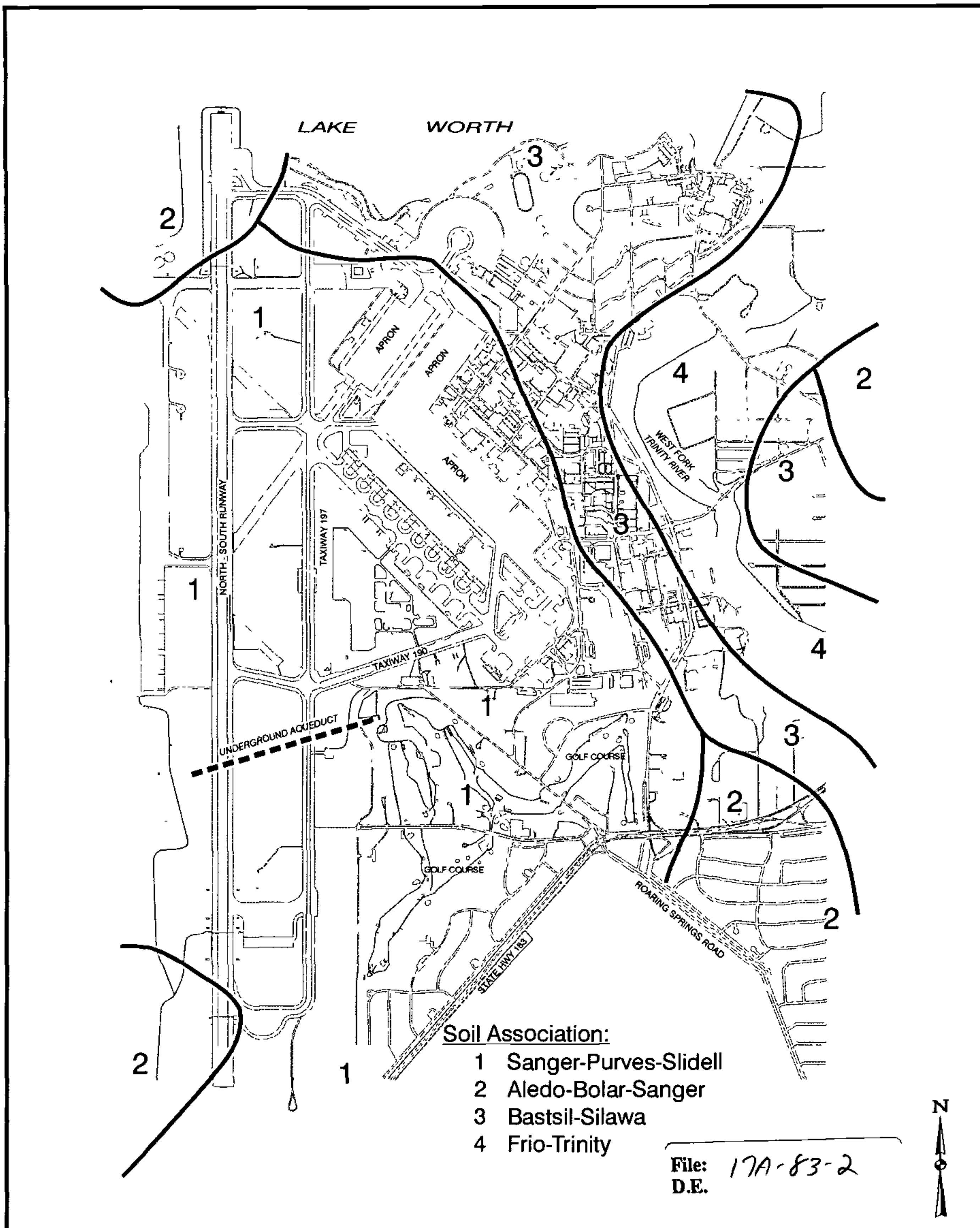
Revised 02/28/02 asp
Maps Lake Worth and Benbrook TX
Dates Photorevised 1981, 1982

HYDRO GeoLogic Inc



Filename X \AFC001\26\aoc19_site_investigation\Report\Soil_Association cdr
Project AFC001-026-20
Revised 02/28/02 asp
Map Source Radian, 1989

HYDRO GeoLogic Inc

Legend

Area of Concern 19

0 1000 2000
SCALE IN FEET

Figure 2.12
Soil Association Map
NAS Fort Worth JRB, Texas

TAB

SECTION 3.0

3.0 SUMMARY OF INVESTIGATION ACTIVITIES

This section provides a summary of previous/ongoing investigations in the AOC 19 area and describes activities conducted as part of this investigation. Preliminary activities conducted for the site characterization included aerial photo interpretation, site reconnaissance, and utility clearance. Chemical characterization activities included surface and subsurface soil sample collection and groundwater sample collection. In addition, a geophysical survey was performed to identify subsurface anomalies, and exploratory excavations were completed to characterize those anomalies identified by the geophysical survey.

3.1 SWMU 25 RCRA FACILITY INVESTIGATION

Prior to the current SI, HydroGeoLogic conducted an RFI at SWMU 25/Landfill 8 which extends over the western third of AOC 19. The overlapping boundaries of SWMU 25/Landfill 8 and AOC 19 are depicted in Figure 3.1. RFI activities at SWMU 25/Landfill 8 began in August 1997, and continued until June 2000. The results of the RFI showed concentrations of several constituents above RRS 1 and 2 within the AOC 19 boundary. However most of these concentrations were removed during the interim remedial action (IRA) at SWMU 25/Landfill 8 conducted by International Technologies Corporation (IT) in July and August 2000. The remaining constituents of concern were delineated or eliminated as statistically probable deviations of background concentrations. A full discussion of the SWMU 25/Landfill 8 RFI is presented in the *Final RCRA Facility Investigation Report, Solid Waste Management Units 22, 23, 24, and 25, NAS Fort Worth JRB, Texas* (HydroGeoLogic, 2001b). Based on the conclusions of the RFI Report, TNRCC granted closure of SWMU 25/Landfill 8 under RRS 2 in June 2001.

3.2 BASEWIDE TCE PLUME

A basewide groundwater sampling and analysis program (GSAP) was initiated for NAS Fort Worth JRB in April 1995 to address groundwater contamination associated with various SWMUs and AOCs identified on the base. Twenty-two rounds of quarterly or semi-annual sampling have been implemented to date. The major source of the trichloroethene (TCE) plume is from the upgradient site AFP 4. AFP 4 was placed on the National Priority List (NPL) in August 1990 because of a large release of TCE arising from past disposal practices. While the source areas are currently being remediated under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the dissolved TCE plume appears to have migrated east of AFP 4, extending under NAS Fort Worth JRB. The regional TCE plume can be subdivided into northern and southern lobes (HydroGeoLogic, 2000e).

AOC 19 is located in the vicinity of the southern lobe of the TCE plume, as shown in Figure 3.2. The concentrations of TCE upgradient of AOC 19 from April to July 2001 ranged from 3.800 J mg/L (HM-112) to 0.280 mg/L (HM-126), as depicted in Figure 3.2.

3.3 SITE RECONNAISSANCE AND UTILITY CLEARANCE

Prior to mobilizing to the field, HydroGeoLogic conducted site reconnaissance to select sample locations and to assess requirements for site preparation and clearance of underground utilities. Proposed drilling locations were determined and marked within the area of AOC 19 based on accessibility, utility locations, site extent identified in aerial photographs, results of the SWMU 25 RFI, and topography, which slopes downward toward Farmer's Branch Creek in a southerly direction.

As this SI involved multiple phases, the Navy Public Works office issued an individual dig permit for each phase of site activities that involved subsurface work at AOC 19. Each dig permit was valid for 30 days, and the corresponding HydroGeoLogic field effort was conducted during this 30-day window.

Prior to initiating subsurface activities, HydroGeoLogic marked the boring locations with stakes and notified the Navy Public Works Office regarding the intended field investigations and sampling activities. A local utility company marked and cleared all subsurface utilities within a 50-foot radius of the proposed AOC 19 boring/excavation locations. The Phase I utility clearance was requested on April 28, 2000 and was received on May 8, 2000 (permit call number 534). Phase II utility clearances were requested on August and December 3, 2001, and received on August 12, 2001 and December 3, 2001 (permit call numbers 012151081 and 013375126, respectively).

3.4 AOC 19 SITE INVESTIGATION ACTIVITIES

The following sections describe activities conducted as part of this SI. As stated previously in Section 1.0, all sampling activities were conducted in accordance with the RFI/SI WPs (HydroGeoLogic, 2000a) along with planning documents specifically developed for each subsequent phase of field activities referenced in the subsections below.

3.4.1 Phase I - Site Investigation Activities

Phase I of the SI at AOC 19 was initiated on May 12, 2000 and was completed on May 15, 2000. A total of four soil borings were advanced at AOC 19 using DPT during Phase I. Figure 3.1 illustrates the Phase I soil boring locations, depicted in blue. Soil boring BHGLAOC1901 was advanced in the north central area of AOC 19. Soil borings BHGLAOC1902 and BHGLAOC1903 were advanced along the eastern boundary of AOC 19. Soil boring BHGLAOC1904 was advanced along the south central boundary of AOC 19. The purpose of these borings was to identify and characterize potential contamination associated with AOC 19. Continuous cores were used to sample and evaluate the physical characteristics of the soil. Soil samples were collected at 5-foot intervals from the ground surface to the water table or refusal, and submitted for analysis. Based on the potential wastes handled at AOC 19 (Section 1.2), soil samples were analyzed for the following reduced list of Appendix IX analytes:

Appendix IX

- SW8260B - VOCs
- SW8270C - semivolatile organic compounds (SVOCs)
- SW6010B - trace elements (metals)
- SW7471A - mercury

During Phase I, a total of five surface (four samples and one duplicate) and five subsurface soil samples were submitted for chemical analysis[1]. Results of the AOC 19 Phase I soil investigation are presented in Section 4.0.

- SW7471A - mercury

3.4.2 Phase II - Site Investigation Activities

The second phase of SI field activities at AOC 19 was conducted in various stages throughout 2001. All field work associated with the Phase II activities was performed in accordance with the *Phase II Work Plan Addendum, RCRA Facility Investigation of SWMUs 19, 20, 21, and 53; and Site Investigation of AOC 19* (HydroGeoLogic, 2000b). Phase II investigation activities consisted of the following:

- geophysical survey
- exploratory excavations
- soil boring installation/soil characterization
- monitoring well installation/groundwater characterization

3.4.2.1 Geophysical Survey

Due to the proximity of AOC 19 to SWMU 25/Landfill 8, a geophysical survey was performed by a HydroGeoLogic subcontractor in February 2001. This survey was performed using magnetic, time-domain electromagnetic (EM) induction, and frequency-domain EM induction techniques. The instrumentation consisted of a Geometrics G-858G magnetic gradiometer for survey data acquisition, a Geonics EM61 high-sensitivity metal detector for the time-domain EM survey, and a Geonics EM31 terrain conductivity meter for the frequency-domain survey. Both Geonics units were coupled to an Omnidata DL720 digital data logger when in use.

The results of this survey were reported in *Surface Geophysical Survey Report, AOC 19 Site/SWMUs 19 & 20 Site* (IT, 2001). The geophysical report is included as Appendix C and the results are discussed in Section 4.1.

[1] Due to a sample delivery problem, the VOCs fraction was recollected from the surface and subsurface intervals of BHGLAOC1901 on May 26, 2000.

3.4.2.2 Exploratory Excavations

Based on the results of the geophysical survey, five anomalies, THGLAOC1901 through THGLAOC1905, were investigated by exploratory excavations in August 2001. All work was performed in accordance with the *Excavation Work Plan, SWMUs 19, 64, and AOC 19*[2] (HydroGeoLogic, 2001a). The locations of the Phase II exploratory excavations are shown on Figure 3.1, along with the locations of three test pits completed within the boundary of AOC 19 during the SWMU 25/Landfill 8 RFI in 1997. The Phase II excavation activities at AOC 19 were initiated and completed in August 2001. One soil sample was collected from the floor of exploratory excavation THGLAOC1905 due to the uncovering of three crushed 55-gallon drums. This sample, THGLAOC1905-02, was analyzed for Appendix IX VOCs (SW8260B), SVOCs (SW8270C), and metals/mercury (SW6010B/SW7000A series/SW7141A)[3]. Excavation findings and analytical results are presented in Section 4.1.

3.4.2.3 Soil Boring Installation/Soil Characterization

A total of 12 soil borings were advanced at AOC 19 during Phase II of the SI, 3 of which were completed as monitoring wells. As stated in the Phase II WP Addendum (HydroGeoLogic, 2000b), the purpose of the Phase II investigation was twofold: to sample selected soil intervals for analysis of TCE by method SW8260B in order to confirm or delineate the results of the Phase I soil investigation, and to install and sample groundwater monitoring wells immediately downgradient from the site. Six Phase II borings were originally planned; three of these borings (BHGLAOC1905, BHGLAOC1906, and BHGLAOC1907) would be advanced and sampled for confirmation/delineation, and three others (WHGLTA050, WHGLTA051, and WHGLTA052) would be advanced and sampled for delineation purposes, and then completed as groundwater monitoring wells (see Section 3.4.2.4). Based on geophysical investigation results and the analytical results from subsequent exploratory excavations (see Sections 3.2.4.1 and 3.2.4.2 above), the SI was expanded to include borings BHGLAOC1908, BHGLAOC1909, and BHGLAOC1910. Based on the August 2001 Phase II results, three additional soil borings, BHGLAOC1911, BHGLAOC1912, and BHGLAOC1913 were advanced in December 2001. These additional borings were advanced after consultation with AFCEE and with AFCEE's concurrence. All Phase II soil boring locations are depicted in red in Figure 3.1. The analytical results from the Phase II investigation are presented in Section 4.0 All soil sampling activities were performed in accordance with the project WPs (HydroGeoLogic, 2000a and 2000b). The rationale for Phase II boring locations and the analytes requested for analysis are presented in the following paragraphs.

[2] Although not identified in the original geophysical survey, THGLAOC1902 was excavated based upon a high magnetic locator reading at the time the exploratory excavations were being conducted at the site.

[3] This sample was analyzed for a broader list of analyses than proposed in the Excavation WP based on the materials revealed in excavation THGLAOC1905.

One of the twelve Phase II borings, BHGLAOC1907, was advanced for confirmation purposes. The 10-foot interval of this confirmation boring was sampled in August 2001 in order to confirm a TCE detection in the 10-foot interval of BHGLAOC1901.

Two of the twelve Phase II soil borings were advanced for additional site characterization purposes. These characterization borings, BHGLAOC1905[4] and BHGLAOC1908, were advanced in order to further characterize the bermed area southwest of THGLAOC1905, where road construction debris was uncovered. These borings were installed in order to evaluate whether any possible landfill material from SWMU 25/Landfill 8 within AOC 19 did not pose a threat to human health or the environment. Soil samples were collected from borings BHGLAOC1905 and BHGLAOC1908 every 5 feet from the ground surface to the top of the water table, or refusal, whichever occurred first. The following methods were used to analyze the Phase II characterization borings:

Appendix IX

- SW8260B - VOCs
- SW8270C - SVOCs
- SW6010B - trace elements (metals)
- SW7471A - mercury

A total of nine delineation borings (including the three borings completed as monitoring wells) were advanced during Phase II. In August 2001, three soil borings, BHGLAOC1906, BHGLAOC1909, and BHGLAOC1910, were advanced within and around the perimeter of AOC 19 in order to delineate concentrations detected in Phase I and excavation THGLAOC1905 (Figure 3.1). Based upon the August 2001 analytical results, it was necessary to advance three additional soil borings, BHGLAOC1911 through BHGLAOC1913, in December 2001 for delineation. Based on the results of the Phase I and II soil samples, the samples from the following borings were analyzed for TCE by method SW8260B: BHGLAOC1906, BHGLAOC1913, and WHGLTA050 through WHGLTA052. Based on the analytical results of the sample collected from exploratory excavation THGLAOC1905, the samples from the following borings were analyzed for polynuclear aromatic hydrocarbons (PAHs) by method SW8270C: BHGLAOC1909, BHGLAOC1910, BHGLAOC1911, and BHGLAOC1912. Additional detail on the Phase II delineation borings is provided in the following paragraphs.

Soil boring BHGLAOC1906 was installed in order to delineate TCE in the subsurface soil south of BHGLAOC1904 in accordance with the Phase II WPs (HydroGeoLogic, 2000b). Soil borings BHGLAOC1909 and BHGLAOC1910 were added during the field effort to delineate the detections of PAHs in the soil sample collected from floor of excavation THGLAOC1905. Soil boring BHGLAOC1909 was sampled at the 5-foot interval for southwestern delineation of

[4] BHGLAOC1905 was originally planned as a eastern delineation boring for TCE; however, based on low TCE concentrations in the soil samples collected during monitoring well installation, this was no longer necessary.

THGLAOC1905, and BHGLAOC1910 was sampled at the surface, 5-foot, and 10-foot intervals for western delineation of THGLAOC1905. A total of 3 surface and 11 subsurface (10 samples and one duplicate) soil samples were submitted for chemical analysis in August 2001.

Three delineation soil borings, BHGLAOC1911 through BHGLAOC1913, were advanced within and around the perimeters of AOC 19 in December 2001. Based on the August 2001 analytical results, a vertical delineation boring (BHGLAOC1911) and a northern delineation boring (BHGLAOC1912) for the samples collected from the exploratory excavation were necessary. The 10-foot interval from boring BHGLAOC1911 and the 5- and 10-foot intervals for BHGLAOC1912 were sampled and analyzed for PAHs using method SW8270C; the 5- and 10-foot intervals of boring BHGLAOC1913 were sampled and analyzed for TCE by method SW8260B. In December 2001, six subsurface soil samples (five samples and one duplicate) were submitted for chemical analysis.

The remaining three delineation soil borings were completed as monitoring wells in February 2001: WHGLTA050, WHGLTA051, and WHGLTA052. Based on the results of the Phase I soil investigation, soil samples were collected from the surface and 5-foot intervals of monitoring wells WHGLTA050 and WHGLTA051. In addition, a soil sample was collected from the 5-foot interval of monitoring well WHGLTA052. All soil samples collected during the installation of the AOC 19 monitoring wells were analyzed for TCE by method SW8260B. A total of two surface and three subsurface soil samples were submitted for chemical analysis in February 2001.

3.4.2.4 Monitoring Well Installation/Groundwater Characterization

Monitoring wells WHGLTA050, WHGLTA051, and WHGLTA052 were installed down- and crossgradient of AOC 19 in February 2001. Monitoring wells WHGLTA050 and WHGLTA051 were installed further east of the fence than preferred due to piles of golf course construction rubble that restricted rig access near the NAS Fort Worth boundary. Delineation soil samples collected during monitoring well installation are discussed in Section 3.4.2.3.

Three rounds of groundwater sampling were conducted two months apart according to the RCRA permit. Sampling occurred in February, April, and June 2001. In addition to the three wells installed for this investigation, existing upgradient monitoring well WHGLTA004 and existing crossgradient monitoring well WHGLTA801 were sampled for TCE by method SW8260B[5].

[5] Groundwater samples were analyzed for the full suite of VOCs listed in the 2000 Basewide QAPP (HydroGeoLogic, 2000b) in conjunction with the April 2001 Semi-Annual Sampling Event conducted in support of the Basewide Groundwater Sampling and Analysis Program (GSAP). Only the TCE results for the April 2001 samples are relevant to the SI. The full set of analytical results for the April 2001 sampling event is presented in *Basewide Groundwater Sampling and Analysis Program, April 2001 Semi-Annual Report* (HydroGeoLogic, 2001c).

The analytical results from the groundwater samples are intended to determine if the soil at AOC 19 is impacting groundwater at the site. Results of the AOC 19 groundwater investigation are presented in Section 4.5 of this SI.

3.5 ELEVATION AND LOCATION SURVEY

All sampling points including soil borings, monitoring wells, and excavations were surveyed by Baird, Hampton & Brown, Inc., of Fort Worth, Texas. In addition, the corners of the geophysical grids were also surveyed. Vertical and horizontal measurements were collected in accordance with the RFI WPs (HydroGeoLogic, 2000a). Surveying data are provided in Appendix D.

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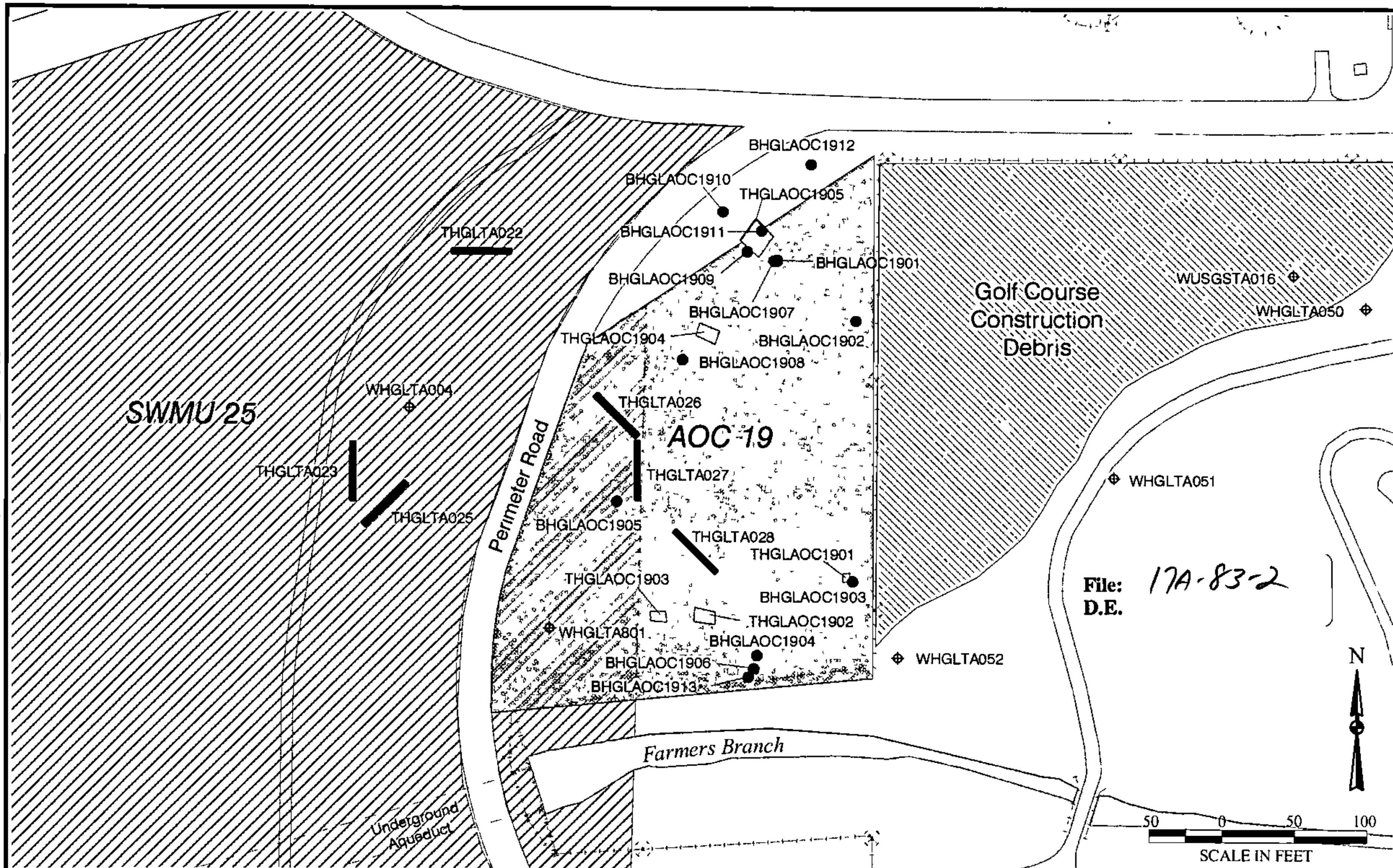
FIGURES



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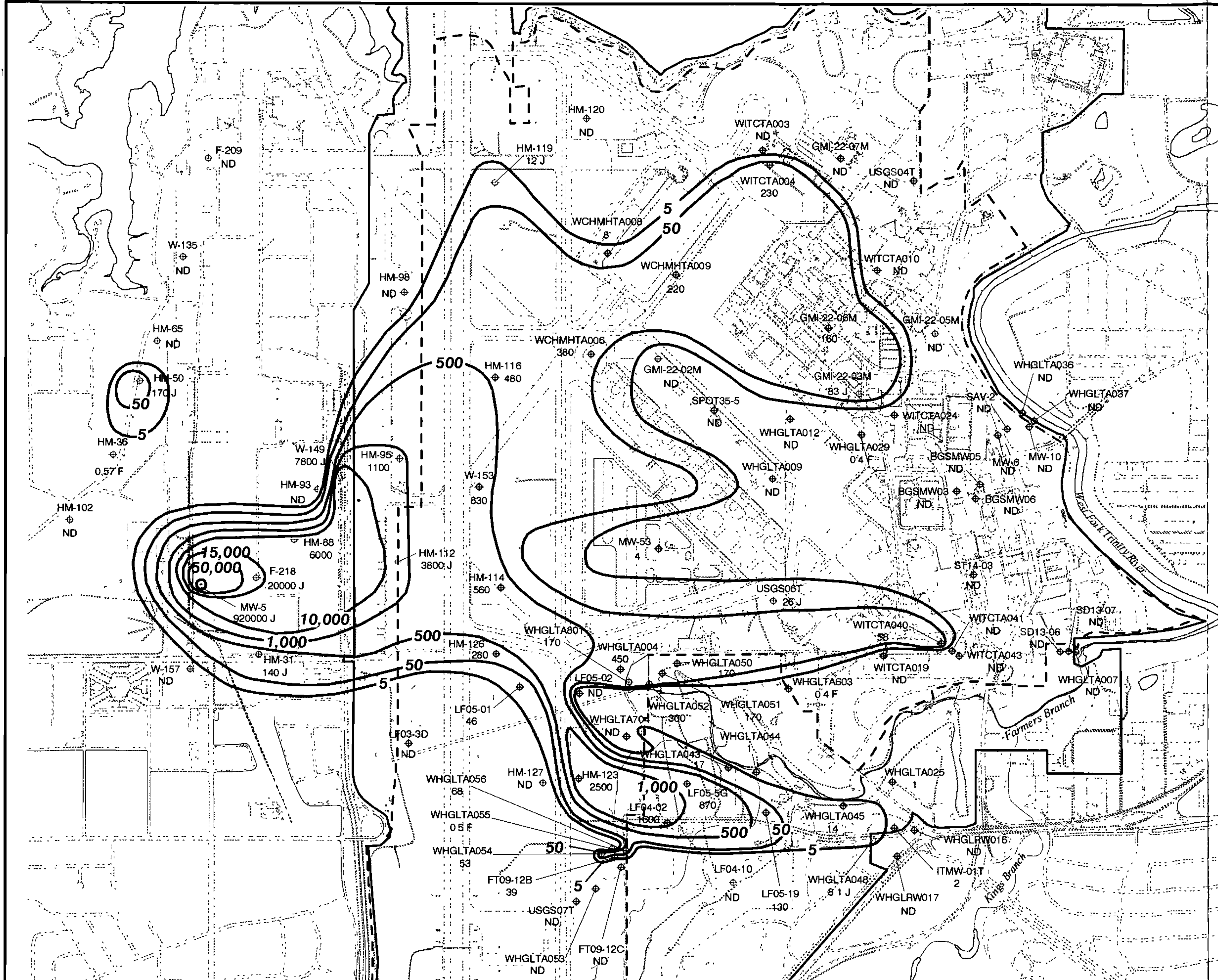
Project AFC001-026-20
Created 07/20/99 jbelcher
Revised 04/22/02 tbraswell
Source HGL ArcView Database

HYDRO GeoLogic INC

Legend

- Area of Concern (AOC)
- Solid Waste Management Units (SWMU)
- Fences
- Test Pit
- Exploratory Excavation
- Monitoring Well
- Phase I Soil Boring Location
- Phase II Soil Boring Location

Figure 3.1
Site Map and Sampling Locations
AOC 19—Suspected Former
Fire Training Area B



HydroGeoLogic, Inc --Site Investigation Report, AOC 19
NAS Fort Worth JRB, Texas

Figure 3.2
Trichloroethene Concentrations Terrace Alluvium April through July 2001

U.S. Air Force Center For Environmental Excellence

Legend

- NAS Fort Worth JRB (Carswell Field)
- Former Carswell Air Force Base
- **— 500 —** TCE Concentration Contour (µg/L)
- Area of Concern 19
- MW-53 / 50 — NAS Fort Worth JRB Basewide Sampling Well; TCE Concentration (µg/L)
- WHGLTA036 / ND — Monitoring well data collected as part of other investigations during April 2001; TCE Concentration (µg/L)
- HM-119 / 17 — AFP 4 Semi-Annual Monitoring Well; TCE Concentration (µg/L)
- SD13-07 / ND — Monitoring well data collected as part of other investigations during July 2001; TCE Concentration (µg/L)

ND = Not Detected at Laboratory Method Detection Limit of 0 5µg/L

F = The analyte was positively identified, but the associated value is below the MQL

J = The analyte was positively identified, but the quantitation is an estimation

N

600 0 600 1200
SCALE IN FEET

Filename AFC001\26\aoc19_site_investigation\Report\tce_apr2001 apr
Created 09/20/99 jbelcher
Revised 02/28/02 asp
Project AFC001-026-20
Map Source HydroGeoLogic, Inc GIS Database, Jacobs Engineering

HYDROGEOLOGIC INC

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TAB

SECTION 4.0

4.0 INVESTIGATION RESULTS

This section presents the results from the investigation activities conducted during the AOC 19 SI. The findings from the exploratory excavations are presented in Table 4.1 and the analytical results are summarized in Tables 4.2 through 4.5. All soil and groundwater samples were analyzed in accordance with the rationale presented in the RFI/SI WPs (HydroGeoLogic, 2000a) and Phase II WPs Addendum (HydroGeoLogic, 2000b).

As stated previously, analytical results were compared to the applicable RRS 1 values in order to determine if a release has occurred at AOC 19. The results from samples collected and analyzed for trace metals were compared to the approved base-specific background values as presented in the Final Basewide Background Study (Jacobs, 1998). The results from samples collected and analyzed for organic compounds were compared to respective MQLs. Furthermore, all analytical results exceeding RRS 1 values were compared to available MSCs. All AOC 19 soil detections are presented in tabular form in this section. Complete analytical data summaries for soil samples are presented in Appendix E. As the complete analytical data for all Phase II groundwater samples are presented in Table 4.5 in this section, these data are not included in Appendix E.

The SPLP extraction method was used in order to possibly provide a site specific MSC if analytes were detected above the applicable MSC in the original sample. When an SPLP extraction and analysis was performed, the result was compared to the applicable industrial groundwater MSC. If the result in the extract was below this groundwater MSC, then the corresponding soil MSC was adjusted to the highest soil value that is associated with a "passing" SPLP result, provided that there is no soil result at the site with a lower detection for the same analyte that "failed" subsequent SPLP analysis.

4.1 GEOPHYSICAL AND EXPLORATORY EXCAVATION FINDINGS

A total of eight test pits were excavated at SWMU 25/Landfill 8 in 1997, three of which (THGLTA026, THGLTA027, and THGLTA028) are within the AOC 19 boundary (Figure 3.1). The contents of the three SWMU 25/Landfill 8 test pits are described in Table 4.1. The results of the geophysical survey conducted as part of the AOC 19 SI revealed 15 distinct anomalies, as depicted in Figure 4.1. However, all the anomalies, with the exception of A-14, are located along the perimeter road and/or the boundary of SWMU 25/Landfill 8[6]. The anomalies along the road are attributed to road fill and construction debris from the adjacent landfill, such as found in THGLTA026 (Table 4.1). Based on the results of the geophysical survey and the SWMU 25/Landfill 8 RFI, exploratory excavations were conducted at the southeastern anomaly (A-14), the northern anomaly (A-4), and the south central anomaly (A-13) as depicted in Figure 4.1 (HydroGeoLogic, 2001a).

[6] HydroGeoLogic performed an RFI at SWMU 25/Landfill 8 in several phases from August 1997 through June 2000, and an interim remedial action was performed by IT in July and August 2000. SMWU25/Landfill 8 received closure in June 2001 under RRS 2 based on the findings presented in the Final RFI Report (HydroGeoLogic, 2001b).

The exploratory excavations were advanced over anomalies that were not within the boundary of SWMU 25/Landfill 8. A total of five exploratory excavations were advanced in August 2001 (THGLAOC1901 through THGLAOC1905). A magnetic locator was used in the field to confirm the location and removal of the anomalies. All metal debris removed from the excavations at AOC 19 was determined to be non-hazardous and was taken to a recycling facility off base for disposal. Photographs and schematics of each exploratory excavation conducted during the AOC 19 SI are presented as Figures 4.2 through 4.6. Table 4.1 presents a description of the materials encountered in both the exploratory excavations completed at AOC 19 and the three relevant test pits from the 1997 SWMU 25/Landfill 8 RFI.

Excavation THGLAOC1901 was located in the area of anomaly A-14, in the southeast corner of AOC 19 (Figure 4.1). Excavation THGLAOC1901 measured 6-feet long by 5-feet wide by 1-foot deep. The source of the geophysical anomaly at THGLAOC1901 was a 2-feet wide by 2.5-feet long by 0.25-inch thick steel plate, depicted in Figure 4.2. No staining, odor, nor PID detections were observed in the soil within the excavation; as a result exploratory excavation THGLAOC1901 was immediately backfilled with the excavated soil in the order that it was removed.

Excavation THGLAOC1902 was located in the area of anomaly A-13, in the south central portion of AOC 19 (Figure 4.1). The magnetic locator used prior to all excavations, identified potential buried metal approximately 20 feet east of the area where A-13 was located on Figure 4.1. Therefore an additional exploratory excavation to the four proposed in the Excavation WP (HydroGeoLogic, 2001a) was advanced in this area. Excavation THGLAOC1902 measured 9-feet long by 15-feet wide by 3-feet deep. The source of the anomaly at THGLAOC1902 consisted of a 20-foot long, 2-inch steel pipe and an approximately 1.5 x 2.5 foot piece of sheet steel, depicted in Figure 4.3. No staining, odor, nor PID detections were observed in the soil within the excavation; as a result exploratory excavation THGLAOC1902 was immediately backfilled with native soil in the order that it was removed.

Excavation THGLAOC1903 was located over anomaly A-13 (Figure 4.1). Excavation THGLAOC1903 measured 10-feet long by 7-feet wide by 2.5-feet deep. The magnetic locator received weak signals in this area, and only reinforced concrete, barbwire, and pieces of wire cable were found within the excavation. THGLAOC1903 is depicted in Figure 4.4. No staining, odor, nor PID detections were observed in the soil within the excavation; as a result exploratory excavation THGLAOC1903 was immediately backfilled with native soil in the order that it was removed.

Although two exploratory excavations were planned within anomaly A-4 in the Excavation WPs (HydroGeoLogic, 2001a), only one of the two planned excavations (THGLAOC1905) was advanced in the area of anomaly A-4 (Figure 4.1). This change was based on the visual observation of concrete at the top of the berm in the proposed area and the proximity of the proposed location to SWMU 25/Landfill 8. Therefore the second excavation proposed within anomaly A-4 (THGLAOC1904) was alternatively advanced in the central portion of AOC 19 over anomaly A-5 (Figure 4.1). The new location of excavation THGLAOC1904 was based on anomalous readings at the base of the berm by the magnetic locator used in the field. Excavation THGLAOC1904 measured 15-feet long by 9-feet wide by 4.5-feet deep. The only items unearthed in excavation THGLAOC1904 consisted of a piece of scrap metal and wire cable, shown in Figure 4.5. No staining, odor, nor PID detections were observed in the soil within the excavation; as a result exploratory excavation THGLAOC1904 was immediately backfilled with native soil in the order that it was removed.

THGLAOC1905 was excavated in the area of anomaly A-4 in the north central area of AOC 19. Excavation THGLAOC1905 measured 13-feet long by 21-feet wide by 3-feet deep. The source of the geophysical anomaly at THGLAOC1905 was construction debris which included 3 crushed, rusted, and empty 55-gallon drums; 2 crushed, rusted, and empty 5-gallon buckets; nails; a large amount of reinforced concrete; roofing tar; resin; glass; metal wire; and wood. The excavation and objects removed are depicted in Figure 4.6. No staining, odor, nor PID detections were observed in the soil within the excavation, stockpile, or around and inside the drums and buckets. However, based on the contents of the unearthered materials, two soil samples were collected to characterize the soil within the excavation. Soil sample THGLAOC1905-02 was collected from the excavation floor (3-feet below ground surface [bgs]) beneath the location where the drums were discovered. This sample was analyzed for Appendix IX VOCs (SW8260B), SVOCs (SW8270C), and metals/mercury (SW6010B/7000)[7]. The second soil sample was collected from the stockpile for waste characterization and analyzed for reactivity (SW846, Chapter 7), ignitability (SW1020A), corrosivity (SW1110), total petroleum hydrocarbons (TNRCC method TX1005), VOCs (SW8260B), and metals (SW6010B/7000A). The analysis of these samples was expedited by the analytical laboratory. The stockpiled soil was covered and the open excavation was secured until the results were received. Based on the analytical results of the stockpiled soil, the excavation was backfilled with the excavated soil in the order that it was removed.

No concentrations of metals or VOCs were detected above RRS 1 values in the soil samples collected at THGLAOC1905. The following SVOC constituents were detected above RRS 1 concentrations in the subsurface soil sample collected from the floor of THGLAOC1905:

- **bis(2-Ethylhexyl)phthalate** was detected at 0.66 milligrams per kilogram (mg/kg) in the soil sample collected from the floor of test pit THGLAOC1905. This result is above the RRS 1 of 0.33 mg/kg and the MSC of 0.6 mg/kg. Analyzing an SPLP extract of sample THGLAOC1905-02 developed a site-specific MSC of 0.66 mg/kg. The site-specific MSCs for AOC 19 are listed in Table 4.2.

- **PAHs** are a class of compounds represented by 16 analytes on the SVOC analyte list. Twelve of these compounds were detected above RRS 1 in the sample collected from the floor of test pit THGLAOC1905. Anthracene; benzo[*g,h,i*]perylene; chrysene; fluoranthene; phenanthrene; and pyrene were detected above the associated RRS 1 values, but below the associated RRS 2 values. Benzo[*a*]anthracene; benzo[*a*]pyrene;

[7] Additional analyses were added to those proposed in the Excavation WP in order to more completely characterize the soil beneath the materials uncovered in THGLAOC1905.

benzo[*b*]fluoranthene; benzo[*k*]fluoranthene; dibenzo[*a,h*]anthracene; and indeno[1,2,3-*cd*]pyrene were detected above the associated RRS 2 values. Site-specific MSCs were developed for these six compounds by analyzing an SPLP extract of this sample (Table 4.2).

The analytical results of sample THGLAOC1905-02 are listed in Table 4.4 and discussed in Section 4.4.

4.2 LITHOLOGIC FINDINGS

A total of four soil borings, BHGLAOC1901 through BHGLAOC1904, were initially advanced at AOC 19 (Figure 4.1). Based on the results of Phase I and following completion of the geophysical survey in August 2001, six additional soil borings, BHGLAOC1905 through BHGLAOC1910, were advanced at AOC 19. BHGLAOC1905 and BHGLAOC1908 were characterization borings added to the Phase II sampling plan based upon the excavation findings in order to ensure that any construction debris within the bermed area along the road did not pose a threat to human health or the environment. Borings BHGLAOC1909 and BHGLAOC1910 were added to the sampling plan in order to delineate the constituents detected in the floor sample from THGLAOC1905, and three additional borings (BHGLAOC1911 through BHGLAOC1913) were added in December 2001 in order to achieve delineation of the August 2001 analytical results (see Section 3.2.4.3).

As previously mentioned in Section 3.0, drilling locations were determined based on accessibility, utility locations, geophysical survey results, and topography, which slopes downward toward Farmer's Branch Creek in a southerly direction. The placement of down- and crossgradient monitoring wells WHGLTA050, WHGLTA051, and WHGLTA052, was constrained by a debris area that did not allow for drill rig access near the NAS Fort Worth JRB fence line, depicted in Figure 3.1. The debris was a result of ongoing construction and renovation activities at the Carswell golf course.

No debris or suspected landfill materials were encountered in any of the AOC 19 soil borings. The only construction debris encountered was within exploratory excavation THGLAOC1905 (August 2001), and THGLTA026, THGLTA027, and THGLTA028 from the SWMU 25/Landfill 8 RFI investigation in 1997. Boring logs are presented as Appendix F, and the contents of the exploratory excavations are presented in Table 4.1.

The surface of AOC 19 is covered by grass with a bermed area at the north and northwestern edge that follows the curve of Perimeter Road, and then levels out to the south and to the east. South of AOC 19 beyond the NAS Fort Worth JRB fence line, the ground surface drops off into Farmers Branch Creek. The depth to bedrock at AOC 19 ranges from 7 feet to 12.5 feet bgs. Water table elevations ranged from 5.5 feet to 11 feet bgs.

The lithology of AOC 19 was analyzed using a southwest-northeast transect along borings WHGLTA801, BHGLAOC1905, BHGLAOC1908, and BHGLAOC1910, depicted as cross-section A-A' in Figure 4.7. Boring WHGLTA801 exhibited fill material to a depth of 3 feet bgs, overlying silty clay between 3 and 7 feet bgs. A clayey gravel layer was encountered between 7 and 11 feet, overlying clayey sandy gravel between 11 and 14 feet bgs. Refusal at bedrock was reached at 14.5 feet bgs. Boring BHGLAOC1905 exhibited a layer of concrete and fill material from the surface to a depth of 3 feet bgs followed by a layer of silty clay between 3 and 6 feet bgs. A sand and gravel layer was encountered between 6 and 8 feet bgs, overlying clayey gravelly sand between 8 and 10.5 feet bgs, with refusal at 10.5 feet bgs. Boring BHGLAOC1908 also exhibited fill material from the ground surface to a depth of 3 feet bgs followed by silty clay from 3 to 6 feet bgs, overlying clay between 6 and 12 feet bgs, and weathered limestone from 12 and 12.5 feet bgs, reaching refusal at 12.5 feet bgs. Boring BHGLAOC1910 exhibited fill material from the ground surface to a depth of 8 feet bgs, overlying silty clay with limestone gravel between 8 and 9 feet bgs, transitioning to silty sand and gravel from 9 to 12 feet bgs. Boring BHGLAOC1910 was terminated at 12 feet bgs since it was advanced as a delineation boring for the 5- and 10-foot intervals of sample THGLAOC1905. Boring logs are presented in Appendix F.

The lithology at AOC 19 was analyzed using a west-east transect along borings BHGLTA812, BHGLAOC1905, BHGLTA814, BHGLAOC1902, and WHGLTA050, depicted by cross-section B-B' in Figure 4.7. Boring BHGLTA812 exhibited fill material from the ground surface to a depth of 11 feet bgs overlying silty clay between 11 and 13 feet bgs. A gravelly clay layer was encountered between 13 and 17 feet, which overlies a layer of sandy clay between 17 and 21 feet bgs, with silty gravel from 21 to 23 feet bgs. Boring BHGLTA812 was terminated at 23 feet bgs when the water table was encountered. Boring BHGLAOC1905 similarly exhibited a layer of concrete and fill material from the surface to a depth of 3 feet bgs overlying silty clay between 3 and 6 feet bgs. This layer is overlying sand and gravel between 6 and 8 feet bgs and clayey gravelly sand between 8 and 10.5 feet bgs, reaching refusal at 10.5 feet bgs. Boring BHGLTA814 also exhibited fill material from the ground surface to a depth of 4 feet bgs and silty clay between 4 and 10 feet bgs, however, a layer of gravelly clay was encountered from 10 to 11 feet bgs before refusal was reached at 11 feet bgs. Boring BHGLAOC1902 exhibited fill material from the ground surface to a depth of 2.5 feet bgs overlying a thick layer of sandy clayey silt between 2.5 and 8 feet bgs. This layer is overlying silty sand with clay and gravel from 8 to 11 feet bgs. Boring BHGLAOC1902 was terminated at 11 feet bgs as the water table was reached at 9.5 feet bgs. WHGLTA050 was a shallow boring with a layer of fill material from the ground surface to a depth of 2 feet bgs overlying silty clay with gravel between 2 and 4 feet bgs followed by a layer of clayey sand from 4 to 5.5 feet bgs. Saprolite was encountered from 5.5 to 7 feet bgs, with refusal in limestone bedrock at 7 feet bgs. Boring logs are included in Appendix F.

Groundwater was encountered from approximately 5.5 to 11 feet bgs at AOC 19. Groundwater flow direction across the site trends to the south-southeast towards Farmers Branch Creek.

4.3 SURFACE SOIL DETECTIONS

Surface soil samples were collected for characterization purposes from Phase I borings BHGLAOC1901 through BHGLAOC1904, and Phase II borings BHGLAOC1905 and BHGLAOC1908. All characterization samples were analyzed for the list of analyses presented in Section 3.2.2. As described below, boring BHGLAOC1902 contained the only surface soil sample with an analyte concentration above the associated RRS 1 value. There were no inorganic analytes detected above background in any surface soil characterization samples, and TCE was the only organic constituents detected above RRS 1. Soil sampling locations are depicted in Figure 4.8. Soil sampling results are listed in Table 4.3.

The surface soil samples were collected for delineation purposes from boring BHGLAOC1910, and the borings advanced to install monitoring wells WHGLTA050 and WHGLTA051. The delineation surface soil sample collected at BHGLAOC1910 was analyzed for PAHs by method SW8270C; the delineation surface soil samples collected at WHGLTA050 and WHGLTA051 were analyzed for TCE by method SW8260B. There were no analytes detected above RRS 1 in the delineation surface soil samples. All analytes detected in surface soil samples are presented in Table 4.3. Analytes detected above RRS 1 concentrations are depicted in Figure 4.8.

4.3.1 Inorganic Constituents

No concentrations of metals were detected above RRS 1 in any of the surface soil samples collected at AOC 19.

4.3.2 Organic Constituents

No concentrations of SVOCs were detected above RRS 1 in surface soils at AOC 19. The following VOC was detected above RRS 1 in the surface soil samples collected at AOC 19:

- **TCE** was detected at 0.019 mg/kg in the surface soil sample collected from boring BHGLAOC1902. This result is only slightly above the RRS 1 concentration (0.005 mg/kg) and well below the MSC (0.5 mg/kg) for this analyte.

4.4 SUBSURFACE SOIL DETECTIONS

Characterization subsurface soil samples were collected for chemical analysis at seven locations at AOC 19: Phase I borings BHGLAOC1901 through BHGLAOC1904; Phase II borings BHGLAOC1905 and BHGLAOC1908; and from the bottom of exploratory excavation THGLAOC1905. All characterization samples were analyzed for the list of analyses presented in Section 3.2.2.

Delineation subsurface soil samples were collected from borings BHGLAOC1906, BHGLAOC1909, BHGLAOC1910, and BHGLAOC1911 through BHGLAOC1913.

Delineation subsurface soil samples were also collected from the borings advanced to install monitoring wells WHGLTA050 through WHGLTA052. The delineation subsurface soil samples collected at borings BHGLAOC1906, BHGLAOC1913, and well installation borings WHGLTA050 through WHGLTA052 were analyzed for TCE by method SW8260B. The delineation subsurface soil samples collected at BHGLAOC1909 through BHGLAOC1912 were analyzed for SVOCs by method SW8270C. All analytes detected in subsurface soil samples are presented in Table 4.4, and those analytes detected above RRS 1 are depicted in Figure 4.8. Analytical results indicate concentrations of two metals (arsenic and chromium), two VOCs (*cis*-1,2-dichloroethene and TCE), and several SVOCs (bis(2-ethylhexyl)phthalate and PAHs) were detected above RRS 1 in the subsurface soils at AOC 19.

One confirmation sample, BHGLAOC1907, was collected in order to confirm the TCE detection at the 10-foot interval of BHGLAOC1901. TCE was not detected in this confirmation sample. This soil sampling location is depicted in Figure 4.8, and the result is listed in Table 4.4.

4.4.1 Inorganic Constituents

The following metals were detected above RRS 1 concentrations in the subsurface soil samples collected at AOC 19:

- **Arsenic** was detected at 6.7 mg/kg in the subsurface soil sample collected from the 10-foot interval of boring BHGLAOC1901; this detection of arsenic is slightly above both the background value and the MSC (6.58 mg/kg).

- **Chromium** was detected at 17.7 mg/kg in the subsurface soil sample collected from the 5-foot interval of boring BHGLAOC1908; this detection of chromium is slightly above both the background value and the MSC (16.31 mg/kg).

4.4.2 Organic Constituents

The following organic constituents were detected above RRS 1 concentrations in the subsurface soil samples collected at AOC 19:

- ***cis*-1,2-Dichloroethene** was detected at 0.007 mg/kg in the soil sample collected from the 10-foot interval of boring BHGLAOC1908. This result is only slightly above the RRS 1 concentration (0.005 mg/kg) and well below the MSC (7 mg/kg) for this analyte.

- **Trichloroethene** was detected in the following subsurface soil samples: the 10-foot interval of boring BHGLAOC1901 (0.019 mg/kg); the 5-foot interval of boring BHGLAOC1902 (0.008 mg/kg); the 5-foot interval of boring BHGLAOC1904 (0.009); the 5-foot interval of boring BHGLAOC1905 (0.006 mg/kg); the 5- and 10-foot intervals of boring BHGLAOC1906 (0.033 mg/kg and 0.008 J mg/kg, respectively);

the 10-foot interval of boring BHGLAOC1908 (0.030 mg/kg); and the 5- and 10-foot intervals of boring BHGLAOC1913 (0.051 J mg/kg and 0.036 mg/kg, respectively). Most of these results are only slightly above the RRS 1 concentration (0.005 mg/kg). All concentrations are well below the MSC (0.5 mg/kg) for this analyte.

- **bis(2-Ethylhexyl)phthalate** was detected at a concentration of 0.42 mg/kg in the soil sample collected from the 10-foot interval of boring BHGLAOC1905 and at 0.66 mg/kg in the soil sample collected from the floor of test pit THGLAOC1905 (Section 4.1). These results are above the RRS 1 of 0.33 mg/kg. Although the result from BHGLAOC1905 is below the MSC (0.6 mg/kg) for this analyte, the result from THGLAOC1905 exceeded the RRS 2 value. As a result, an SPLP extract of sample THGLAOC1905 was analyzed and a site-specific MSC of 0.66 mg/kg was developed. Site-specific MSCs for AOC 19 are listed in Table 4.2.

- **PAHs** were detected above RRS 1 in the 10-foot interval (or its duplicate) of boring BHGLAOC1911. Benzo[*g,h,i*]perylene; chrysene; fluoranthene; phenanthrene; and pyrene were detected above the associated RRS 1 values, but below the associated RRS 2 values, at BHGLAOC1911. Benzo[*a*]anthracene; benzo[*a*]pyrene; benzo[*b*] fluoranthene; benzo[*k*]fluoranthene; dibenzo[*a,h*]anthracene; and indeno[1,2,3-*cd*]pyrene were detected above the RRS 2 value at exploratory excavation THGLAOC1905, and site-specific MSCs were developed for these six compounds by analyzing an SPLP extract of this sample. These compounds were detected above RRS 1 but below the site-specific MSC in the sample from boring BHGLAOC1911, with the exception of dibenzo[*a,h*]anthracene (which was below RRS 1). Site-specific MSCs for AOC 19 are listed in Table 4.2.

4.5 GROUNDWATER DETECTIONS

Groundwater samples were collected for chemical analysis from five monitoring wells at AOC 19: WHGLTA004, WHGLTA050, WHGLTA051, WHGLTA052, and WHGLTA801. Monitoring wells WHGLTA050, WHGLTA051, and WHGLTA052 were installed as part of Phase II of the SI for cross- and downgradient groundwater characterization. WHGLTA004 and WHGLTA801 are pre-existing monitoring wells located upgradient and within AOC 19 (and also within SWMU 25/Landfill 8), respectively. Three rounds of groundwater sampling were conducted in February, April, and June 2001. All groundwater samples were analyzed for TCE (SW8260B) based on the soil sampling results from Phase I. Analytical results from the groundwater investigation are presented in Table 4.5. The groundwater sampling locations and results above the RRS 1 for TCE are depicted in Figure 4.9. These results indicate the highest concentrations of TCE were detected in the upgradient monitoring well (WHGLTA004) at AOC 19.

The following concentrations of TCE were detected above RRS 2 in the groundwater samples collected at AOC 19:

- **TCE** was detected in all five wells in concentrations above RRS 2 during all three rounds of sampling. The highest detections of TCE were detected in WHGLTA004, the upgradient well located in SWMU 25, at concentrations of 0.53 mg/L in February 2001; 0.45 mg/L in April 2001; and 0.66 mg/L in June 2001. The lowest detections of TCE were detected in WHGLTA050, a cross- and downgradient monitoring well, at concentrations of 0.15 J mg/L in February 2001; 0.17 mg/L in April 2001; and 0.26 mg/L in June 2001. WHGLTA051, another downgradient monitoring well, had the second lowest detections of TCE at 0.19 mg/L in February 2001; 0.17 mg/L in April 2001; and 0.31 mg/L in June 2001. WHGLTA801, a monitoring well within AOC 19 (and within SWMU 25/Landfill 8), had detections of 0.36 mg/L in February 2001; 0.15 mg/L in April 2001; and 0.34 mg/L in June 2001. WHGLTA052, the downgradient monitoring well between AOC 19 and Farmers Branch Creek, had detections of 0.3 mg/L in February 2001 and April 2001; and 0.57 mg/L in June 2001.

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TABLES

Table 4.1
Excavation Results
AOC 19
NAS Fort Worth JRB, Texas

Excavation Location	Excavation Dimensions	Contents
THGLAOC1901	6' x 5' x 1'	A 2' x 2.5' x 0.25" steel plate. No staining, odor, or elevated PID readings were encountered. Excavation was backfilled with native soil.
THGLAOC1902	9' x 15' x 3'	A 20' long 2" pipe No staining, odor, or elevated PID readings were encountered. Excavation was backfilled with native soil.
THGLAOC1903	10' x 7' x 2.5'	Reinforced concrete, barbwire, and wire cable No staining, odor, or elevated PID readings were encountered Excavation was backfilled with native soil.
THGLAOC1904	15' x 9' x 4.5'	Scrap metal and wire cable. No staining, odor, or elevated PID readings were encountered. Excavation was backfilled with native soil.
THGLAOC1905	13' x 21' x 3'	Various construction type debris consisting of three crushed and empty drums, a crushed and empty paint can, nails, reinforced concrete, roofing tar, resin, glass, metal wire, and wood No odor, staining, or elevated PID readings were detected around or inside the excavation or its contents. A soil sample was collected and analyzed for VOCs (SW8260B), SVOCs (SW8270C), and metals/mercury (SW6010B/7000) from the excavation floor beneath where the crushed drums were located After analytical results were received, the excavation was backfilled with native soil.
THGLTA026*	40' x 3' x 6'	Construction debris, large pieces of asphalt and concrete, and the footing of an old building.
THGLTA027*	40' x 2' x 2'	Concrete at surface and sand encountered at 2 feet bgs.
THGLTA028*	40' x 2' x 9'	No waste materials were encountered.

Notes:
*Advanced in 1997 as part of the SWMU 25/Landfill 8 RFI
bgs = below ground surface

Table 4.2
Site-Specific MSCs
AOC 19
NAS Fort Worth JRB, Texas

Location	Depth	Method	Analyte	RRS 1 (mg/kg)	RRS 2 (mg/kg)	Result (mg/kg)	GW-Ind (mg/L)	SPLP Result (mg/L)	Revised MSC (mg/kg)
THGLAOC1905	2.5'	SW8270C	Benzo[*a*]anthracene	0 33	0.33	**[(2)]**	0.01	ND	2
THGLAOC1905	2.5'	SW8270C	bis(2-Ethylhexyl)phthalate	0.33	0 6	**[(0.66)]**	0 01	ND	0 66
THGLAOC1905	2.5'	SW8270C	Benzo[*k*]fluoranthene	0 33	0 39	**[(1.4)]**	0.01	ND	1.4
THGLAOC1905	2.5'	SW8270C	Benzo[*a*]pyrene	0 33	0 33	**[(1.8)]**	0.01	ND	1.8
THGLAOC1905	2.5'	SW8270C	Indeno[1,2,3-*c,d*]pyrene	0 33	0 33	**[(1.1)]**	0.01	ND	1.1
THGLAOC1905	2.5'	SW8270C	Dibenz[*a,h*]anthracene	0 33	0.33	**[(0.43)]**	0.01	ND	0.43
THGLAOC1905	2.5'	SW8270C	Benzo[*b*]fluoranthene	0.33	0.33	**[(2.2)]**	0.01	ND	2.2

Notes
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
GW-Ind = TNRCC Groundwater MSC for Industrial Use
MSC = medium-specific concentration
Values above RRS 1 are bold and enclosed in ( )
Values above RRS 2 are bold and enclosed in [( )]
ND = analyte not detected
SPLP = synthetic precipitation leaching procedure

Table 4.3
Surface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1901 00 ft 2000-05-12	BHGLAOC1901 00 ft 2000-05-26	BHGLAOC1902 00 ft 2000-05-15
SW6010B	Arsenic	5.85	5.85	mg/kg	4.9 F	NA	4 9
SW6010B	Barium	233	233	mg/kg	44.6	NA	75 J
SW6010B	Beryllium	1.02	1.02	mg/kg	0 84	NA	1
SW6010B	Cadmium	0 556	0.556	mg/kg	--	NA	0.24 F
SW6010B	Chromium, total	25 86	25.86	mg/kg	12.8	NA	20 3 J
SW6010B	Cobalt	11.05	613.2	mg/kg	4.6 F	NA	5.5 F
SW6010B	Copper	17.37	130	mg/kg	7.4 F	NA	10.5
SW6010B	Nickel	14.6	204.4	mg/kg	10 F	NA	13.2 J
SW6010B	Tin	10	6132	mg/kg	1.2 F	NA	--
SW6010B	Vanadium	46 3	71.54	mg/kg	31.1 F	NA	36.8 J
SW6010B	Zinc	38 8	3066	mg/kg	22.7 F	NA	36.2
SW7041	Antimony	0.56	0.6	mg/kg	--	NA	--
SW7421	Lead	30.97	30.97	mg/kg	14.9 F	NA	10.4
SW7471A	Mercury	0.14	0.151	mg/kg	--	NA	--
SW8260B	Trichloroethene (TCE)	0.005	0.5	mg/kg	NA	--	**(0.019)**
SW8270C	Benzyl alcohol	0.33	3066	mg/kg	--	NA	--
SW8270C	Benzyl butyl phthalate	0.33	2044	mg/kg	0.28 F	NA	--

Notes:
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are bold and enclosed in ( )
-- = analyte not detected
NA = not analyzed
F = estimated value below the reporting limit
J = estimated value above the reporting limit

Table 4.3 (continued)
Surface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1903 00 ft 2000-05-15	BHGLAOC1903 00 ft 2000-05-15 Dup	BHGLAOC1904 00 ft 2000-05-15	BHGLAOC1905 00 ft 2001-08-20
SW6010B	Arsenic	5.85	5.85	mg/kg	3 F	4	2 8 F	4 9
SW6010B	Barium	233	233	mg/kg	66.1 J	70.5 J	81.1 J	78.1
SW6010B	Beryllium	1.02	1 02	mg/kg	0.44 J	0.84	0 6	0.92
SW6010B	Cadmium	0.556	0 556	mg/kg	0.21 F	0.29 F	0.27 F	--
SW6010B	Chromium, total	25.86	25 86	mg/kg	12.8 J	14.9 J	13.1 J	16.3
SW6010B	Cobalt	11.05	613.2	mg/kg	3.3 F	4.9	3 F	5.3 F
SW6010B	Copper	17.37	130	mg/kg	5.4 F	10.2	5.7 F	10.9
SW6010B	Nickel	14.6	204.4	mg/kg	8.1 F	10.7 J	8 J	11.5
SW6010B	Tin	10	6132	mg/kg	--	--	--	--
SW6010B	Vanadium	46.3	71.54	mg/kg	26.5 F	29.1 J	25.5 J	31 5
SW6010B	Zinc	38.8	3066	mg/kg	17 2 F	26.2 J	17.7 F	--
SW7041	Antimony	0 56	0.6	mg/kg	--	--	--	--
SW7421	Lead	30 97	30.97	mg/kg	5.6	8.9	6 9 J	12.7
SW7471A	Mercury	0.14	0.151	mg/kg	--	--	--	--
SW8260B	Trichloroethene (TCE)	0 005	0.5	mg/kg	--	--	0 005 J	--
SW8270C	Benzyl alcohol	0.33	3066	mg/kg	--	--	--	--
SW8270C	Benzyl butyl phthalate	0 33	2044	mg/kg	--	--	--	--

Notes:
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are bold and enclosed in ( )
-- = analyte not detected
NA = not analyzed
F = estimated value below the reporting limit
J = estimated value above the reporting limit

Table 4.3 (continued)
Surface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1908 00 ft 2001-08-21	BHGLAOC1910 00 ft 2001-08-22	WHGLTA050 00 ft 2001-02-07	WHGLTA051 00 ft 2001-02-07
SW6010B	Arsenic	5.85	5.85	mg/kg	4 2 F	NA	NA	NA
SW6010B	Barium	233	233	mg/kg	80.3	NA	NA	NA
SW6010B	Beryllium	1.02	1.02	mg/kg	0 79	NA	NA	NA
SW6010B	Cadmium	0 556	0.556	mg/kg	--	NA	NA	NA
SW6010B	Chromium, total	25.86	25.86	mg/kg	12.8	NA	NA	NA
SW6010B	Cobalt	11.05	613.2	mg/kg	5.4 F	NA	NA	NA
SW6010B	Copper	17.37	130	mg/kg	8.6 F	NA	NA	NA
SW6010B	Nickel	14.6	204.4	mg/kg	10 8	NA	NA	NA
SW6010B	Tin	10	6132	mg/kg	--	NA	NA	NA
SW6010B	Vanadium	46.3	71 54	mg/kg	25 1 F	NA	NA	NA
SW6010B	Zinc	38.8	3066	mg/kg	--	NA	NA	NA
SW7041	Antimony	0.56	0.6	mg/kg	0 43 F	NA	NA	NA
SW7421	Lead	30 97	30.97	mg/kg	11 1	NA	NA	NA
SW7471A	Mercury	0 14	0.151	mg/kg	0.013 F	NA	NA	NA
SW8260B	Trichloroethene (TCE)	0.005	0 5	mg/kg	--	NA	--	--
SW8270C	Benzyl alcohol	0.33	3066	mg/kg	--	--	NA	NA
SW8270C	Benzyl butyl phthalate	0.33	2044	mg/kg	--	--	NA	NA

Notes
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are bold and enclosed in ( )
-- = analyte not detected
NA = not analyzed
F = estimated value below the reporting limit
J = estimated value above the reporting limit

Table 4.4
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1901 05 ft 2000-05-12	BHGLAOC1901 05 ft 2000-05-26	BHGLAOC1901 10 ft 2000-05-12
SW6010B	Arsenic	6.58	6.58	mg/kg	4.4 F	NA	[(6.7)]
SW6010B	Barium	128.1	200	mg/kg	80.9	NA	33 3 F
SW6010B	Beryllium	1.13	1.13	mg/kg	--	NA	--
SW6010B	Cadmium	0.59	0 59	mg/kg	0.07 F	NA	0.13 F
SW6010B	Chromium, total	16 31	16.31	mg/kg	12 8	NA	7.4 F
SW6010B	Cobalt	6.19	613 2	mg/kg	5.2 F	NA	2 9 F
SW6010B	Copper	13.72	130	mg/kg	5.3 F	NA	4 2 F
SW6010B	Nickel	19.76	204 4	mg/kg	11 1	NA	7 6 F
SW6010B	Tin	10	6132	mg/kg	1.6 F	NA	1 F
SW6010B	Vanadium	37.4	71.54	mg/kg	29.5 F	NA	22.6 F
SW6010B	Zinc	31.3	3066	mg/kg	21 F	NA	9.8 F
SW7041	Antimony	0.712	0.712	mg/kg	--	NA	--
SW7421	Lead	12.66	12 66	mg/kg	8.8	NA	4 7
SW7471A	Mercury	0.035	0.1513	mg/kg	--	NA	--
SW8260B	*cis*-1,2-Dichloroethene	0.005	7	mg/kg	NA	--	NA
SW8260B	Trichloroethene (TCE)	0.005	0 5	mg/kg	NA	0 004 F	NA
SW8270C	Acenaphthene	0.33	613.2	mg/kg	--	NA	--
SW8270C	Anthracene	0.33	3066	mg/kg	--	NA	--
SW8270C	Benzo[*a*]anthracene	0.33	0.33	mg/kg	--	NA	--
SW8270C	Benzo[*a*]pyrene	0.33	0.33	mg/kg	--	NA	--
SW8270C	Benzo[*b*]fluoranthene	0 33	0.33	mg/kg	--	NA	--
SW8270C	Benzo[*g,h,i*]perylene	0.33	306.6	mg/kg	--	NA	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0 392	mg/kg	--	NA	--
SW8270C	Benzyl alcohol	0.33	3066	mg/kg	--	NA	--

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1901 05 ft 2000-05-12	BHGLAOC1901 05 ft 2000-05-26	BHGLAOC1901 10 ft 2000-05-12
SW8270C	bis(2-Ethylhexyl)phthalate	0.33	0.6	mg/kg	--	NA	--
SW8270C	Chrysene	0.33	3 92	mg/kg	--	NA	--
SW8270C	Dibenz[*a,h*]anthracene	0.33	0.33	mg/kg	--	NA	--
SW8270C	Dibenzofuran	0.33	40.88	mg/kg	--	NA	--
SW8270C	Fluoranthene	0.33	408.8	mg/kg	--	NA	--
SW8270C	Fluorene	0.33	408.8	mg/kg	--	NA	--
SW8270C	Indeno[1,2,3-*c,d*]pyrene	0 33	0.33	mg/kg	--	NA	--
SW8270C	Naphthalene	0 33	204 4	mg/kg	--	NA	--
SW8270C	Phenanthrene	0.33	306.6	mg/kg	--	NA	--
SW8270C	Pyrene	0.33	306.6	mg/kg	--	NA	--

Notes.
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are **bold** and enclosed in ( )
Values above RRS 2 are **bold** and enclosed in [( )]

-- = analyte not detected
NA = not analyzed
F = estimated value below the reporting limit
J = estimated value above the reporting limit

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	UNIT	BHGLAOC1901 10 ft 2000-05-26	BHGLAOC1902 05 ft 2000-05-15	BHGLAOC1903 05 ft 2000-05-15
SW6010B	Arsenic	6 58	6.58	mg/kg	NA	5.5	2.5 F
SW6010B	Barium	128.1	200	mg/kg	NA	62 J	45.3 J
SW6010B	Beryllium	1.13	1.13	mg/kg	NA	0.35 J	0 38 J
SW6010B	Cadmium	0.59	0.59	mg/kg	NA	0 26 F	0.18 F
SW6010B	Chromium, total	16 31	16 31	mg/kg	NA	10.5 J	10.3 J
SW6010B	Cobalt	6.19	613.2	mg/kg	NA	3 9 F	2 F
SW6010B	Copper	13 72	130	mg/kg	NA	4 1 F	3.8 F
SW6010B	Nickel	19 76	204 4	mg/kg	NA	7.9 F	6.7 F
SW6010B	Tin	10	6132	mg/kg	NA	--	--
SW6010B	Vanadium	37 4	71 54	mg/kg	NA	28.9 J	27 J
SW6010B	Zinc	31 3	3066	mg/kg	NA	13.5 F	13.5 F
SW7041	Antimony	0.712	0 712	mg/kg	NA	--	--
SW7421	Lead	12 66	12.66	mg/kg	NA	4.9	5 9
SW7471A	Mercury	0.035	0.1513	mg/kg	NA	--	--
SW8260B	*cis*-1,2-Dichloroethene	0.005	7	mg/kg	0 005	--	--
SW8260B	Trichloroethene (TCE)	0.005	0 5	mg/kg	**(0.019)**	**(0.008)**	0 005
SW8270C	Acenaphthene	0 33	613.2	mg/kg	NA	--	--
SW8270C	Anthracene	0 33	3066	mg/kg	NA	--	--
SW8270C	Benzo[*a*]anthracene	0.33	0.33	mg/kg	NA	--	--
SW8270C	Benzo[*a*]pyrene	0 33	0 33	mg/kg	NA	--	--
SW8270C	Benzo[*b*]fluoranthene	0 33	0 33	mg/kg	NA	--	--
SW8270C	Benzo[*g,h,i*]perylene	0 33	306.6	mg/kg	NA	--	--
SW8270C	Benzo[*k*]fluoranthene	0 33	0.392	mg/kg	NA	--	--
SW8270C	Benzyl alcohol	0 33	3066	mg/kg	NA	--	--
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0 6	mg/kg	NA	--	--

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	UNIT	BHGLAOC1901 10 ft 2000-05-26	BHGLAOC1902 05 ft 2000-05-15	BHGLAOC1903 05 ft 2000-05-15
SW8270C	Chrysene	0 33	3.92	mg/kg	NA	--	--
SW8270C	Dibenz[*a,h*]anthracene	0.33	0.33	mg/kg	NA	--	--
SW8270C	Dibenzofuran	0.33	40.88	mg/kg	NA	--	--
SW8270C	Fluoranthene	0.33	408.8	mg/kg	NA	--	--
SW8270C	Fluorene	0.33	408.8	mg/kg	NA	--	--
SW8270C	Indeno[1,2,3-*c,d*]pyrene	0.33	0.33	mg/kg	NA	--	--
SW8270C	Naphthalene	0.33	204 4	mg/kg	NA	--	--
SW8270C	Phenanthrene	0.33	306.6	mg/kg	NA	--	--
SW8270C	Pyrene	0 33	306.6	mg/kg	NA	--	--

Notes
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are **bold** and enclosed in ( )
Values above RRS 2 are **bold** and enclosed in [( )]

-- = analyte not detected
NA = not analyzed
F = estimated value below the reporting limit
J = estimated value above the reporting limit

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1904 05 ft 2000-05-15	BHGLAOC1905 05 ft 2001-08-20	BHGLAOC1905 10 ft 2001-08-20
SW6010B	Arsenic	6 58	6 58	mg/kg	2.4 F	3.9 F	5 2
SW6010B	Barium	128.1	200	mg/kg	59 1 J	76 2	47.4
SW6010B	Beryllium	1 13	1 13	mg/kg	0.45 J	0.63	0.55
SW6010B	Cadmium	0.59	0.59	mg/kg	0.23 F	--	--
SW6010B	Chromium, total	16.31	16.31	mg/kg	11.8 J	12 3	11.8
SW6010B	Cobalt	6.19	613 2	mg/kg	3 F	2 F	2.9 F
SW6010B	Copper	13.72	130	mg/kg	5.1 F	5.2 F	5.4 F
SW6010B	Nickel	19.76	204.4	mg/kg	8.7 J	7.4 F	7.4 F
SW6010B	Tin	10	6132	mg/kg	--	--	--
SW6010B	Vanadium	37.4	71.54	mg/kg	29 8 J	22.9 F	28.2
SW6010B	Zinc	31.3	3066	mg/kg	16 2 F	--	--
SW7041	Antimony	0 712	0.712	mg/kg	--	--	--
SW7421	Lead	12.66	12.66	mg/kg	6.4	7.1	6.6
SW7471A	Mercury	0 035	0.1513	mg/kg	--	--	--
SW8260B	*cis*-1,2-Dichloroethene	0 005	7	mg/kg	--	--	--
SW8260B	Trichloroethene (TCE)	0.005	0.5	mg/kg	**(0.009)**	**(0.006)**	--
SW8270C	Acenaphthene	0.33	613.2	mg/kg	--	--	--
SW8270C	Anthracene	0.33	3066	mg/kg	--	--	--
SW8270C	Benzo[*a*]anthracene	0 33	0 33	mg/kg	--	--	--
SW8270C	Benzo[*a*]pyrene	0.33	0.33	mg/kg	--	--	--
SW8270C	Benzo[*b*]fluoranthene	0 33	0.33	mg/kg	--	--	--
SW8270C	Benzo[*g,h,i*]perylene	0.33	306 6	mg/kg	--	--	--
SW8270C	Benzo[*k*]fluoranthene	0 33	0 392	mg/kg	--	--	--
SW8270C	Benzyl alcohol	0 33	3066	mg/kg	--	--	--
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0.6	mg/kg	--	--	**(0.42)**

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1904 05 ft 2000-05-15	BHGLAOC1905 05 ft 2001-08-20	BHGLAOC1905 10 ft 2001-08-20
SW8270C	Chrysene	0.33	3 92	mg/kg	--	--	--
SW8270C	Dibenz[*a,h*]anthracene	0.33	0 33	mg/kg	--	--	--
SW8270C	Dibenzofuran	0 33	40.88	mg/kg	--	--	--
SW8270C	Fluoranthene	0.33	408.8	mg/kg	--	--	--
SW8270C	Fluorene	0 33	408 8	mg/kg	--	--	--
SW8270C	Indeno[1,2,3-*c,d*]pyrene	0.33	0.33	mg/kg	--	--	--
SW8270C	Naphthalene	0.33	204.4	mg/kg	--	--	--
SW8270C	Phenanthrene	0.33	306.6	mg/kg	--	--	--
SW8270C	Pyrene	0.33	306.6	mg/kg	--	--	--

Notes.
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are **bold** and enclosed in ( )
Values above RRS 2 are **bold** and enclosed in [( )]

-- = analyte not detected
NA = not analyzed
F = estimated value below the reporting limit
J = estimated value above the reporting limit

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1906 05 ft 2001-08-20	BHGLAOC1906 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20
SW6010B	Arsenic	6 58	6.58	mg/kg	NA	NA	NA
SW6010B	Barium	128.1	200	mg/kg	NA	NA	NA
SW6010B	Beryllium	1 13	1.13	mg/kg	NA	NA	NA
SW6010B	Cadmium	0.59	0.59	mg/kg	NA	NA	NA
SW6010B	Chromium, total	16.31	16.31	mg/kg	NA	NA	NA
SW6010B	Cobalt	6.19	613.2	mg/kg	NA	NA	NA
SW6010B	Copper	13.72	130	mg/kg	NA	NA	NA
SW6010B	Nickel	19.76	204.4	mg/kg	NA	NA	NA
SW6010B	Tin	10	6132	mg/kg	NA	NA	NA
SW6010B	Vanadium	37 4	71.54	mg/kg	NA	NA	NA
SW6010B	Zinc	31.3	3066	mg/kg	NA	NA	NA
SW7041	Antimony	0.712	0.712	mg/kg	NA	NA	NA
SW7421	Lead	12.66	12 66	mg/kg	NA	NA	NA
SW7471A	Mercury	0.035	0.1513	mg/kg	NA	NA	NA
SW8260B	*cis*-1,2-Dichloroethene	0.005	7	mg/kg	NA	NA	NA
SW8260B	Trichloroethene (TCE)	0.005	0.5	mg/kg	**(0.033)**	**(0.008 J)**	--
SW8270C	Acenaphthene	0.33	613 2	mg/kg	NA	NA	NA
SW8270C	Anthracene	0.33	3066	mg/kg	NA	NA	NA
SW8270C	Benzo[*a*]anthracene	0 33	0 33	mg/kg	NA	NA	NA
SW8270C	Benzo[*a*]pyrene	0.33	0 33	mg/kg	NA	NA	NA
SW8270C	Benzo[*b*]fluoranthene	0.33	0.33	mg/kg	NA	NA	NA
SW8270C	Benzo[*g,h,i*]perylene	0 33	306 6	mg/kg	NA	NA	NA
SW8270C	Benzo[*k*]fluoranthene	0.33	0 392	mg/kg	NA	NA	NA
SW8270C	Benzyl alcohol	0 33	3066	mg/kg	NA	NA	NA
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0.6	mg/kg	NA	NA	NA

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1906 05 ft 2001-08-20	BHGLAOC1906 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20
SW8270C	Chrysene	0.33	3.92	mg/kg	NA	NA	NA
SW8270C	Dibenz[*a,h*]anthracene	0.33	0.33	mg/kg	NA	NA	NA
SW8270C	Dibenzofuran	0 33	40.88	mg/kg	NA	NA	NA
SW8270C	Fluoranthene	0.33	408.8	mg/kg	NA	NA	NA
SW8270C	Fluorene	0.33	408.8	mg/kg	NA	NA	NA
SW8270C	Indeno[1,2,3-*c,d*]pyrene	0 33	0.33	mg/kg	NA	NA	NA
SW8270C	Naphthalene	0 33	204 4	mg/kg	NA	NA	NA
SW8270C	Phenanthrene	0.33	306.6	mg/kg	NA	NA	NA
SW8270C	Pyrene	0.33	306.6	mg/kg	NA	NA	NA

Notes:
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are **bold** and enclosed in ( )
Values above RRS 2 are **bold** and enclosed in [( )]

-- = analyte not detected
NA = not analyzed
F = estimated value below the reporting limit
J = estimated value above the reporting limit

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1907 10 ft 2001-08-20 Dup	BHGLAOC1908 05 ft 2001-08-21	BHGLAOC1908 10 ft 2001-08-21
SW6010B	Arsenic	6.58	6.58	mg/kg	NA	2 7 F	3.7 F
SW6010B	Barium	128 1	200	mg/kg	NA	92	53 5
SW6010B	Beryllium	1.13	1.13	mg/kg	NA	0.86	0 64
SW6010B	Cadmium	0.59	0 59	mg/kg	NA	--	--
SW6010B	Chromium, total	16.31	16.31	mg/kg	NA	**[(17.7)]**	13
SW6010B	Cobalt	6.19	613 2	mg/kg	NA	3.3 F	2.9 F
SW6010B	Copper	13.72	130	mg/kg	NA	8.9 F	4.4 F
SW6010B	Nickel	19 76	204 4	mg/kg	NA	9.4 F	7.6 F
SW6010B	Tin	10	6132	mg/kg	NA	--	--
SW6010B	Vanadium	37.4	71.54	mg/kg	NA	25 F	25 F
SW6010B	Zinc	31 3	3066	mg/kg	NA	--	--
SW7041	Antimony	0.712	0.712	mg/kg	NA	0.23 F	--
SW7421	Lead	12.66	12.66	mg/kg	NA	10.1	6.4
SW7471A	Mercury	0 035	0 1513	mg/kg	NA	--	--
SW8260B	*cis*-1,2-Dichloroethene	0 005	7	mg/kg	NA	--	**(0.007)**
SW8260B	Trichloroethene (TCE)	0 005	0 5	mg/kg	--	--	**(0.03)**
SW8270C	Acenaphthene	0.33	613.2	mg/kg	NA	--	--
SW8270C	Anthracene	0.33	3066	mg/kg	NA	--	--
SW8270C	Benzo[*a*]anthracene	0.33	0.33	mg/kg	NA	--	--
SW8270C	Benzo[*a*]pyrene	0.33	0 33	mg/kg	NA	--	--
SW8270C	Benzo[*b*]fluoranthene	0.33	0 33	mg/kg	NA	--	--
SW8270C	Benzo[*g,h,i*]perylene	0.33	306.6	mg/kg	NA	--	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0 392	mg/kg	NA	--	--
SW8270C	Benzyl alcohol	0.33	3066	mg/kg	NA	--	--
SW8270C	bis(2-Ethylhexyl)phthalate	0.33	0 6	mg/kg	NA	--	--

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1907 10 ft 2001-08-20 Dup	BHGLAOC1908 05 ft 2001-08-21	BHGLAOC1908 10 ft 2001-08-21
SW8270C	Chrysene	0.33	3.92	mg/kg	NA	--	--
SW8270C	Dibenz[*a,h*]anthracene	0.33	0.33	mg/kg	NA	--	--
SW8270C	Dibenzofuran	0.33	40 88	mg/kg	NA	--	--
SW8270C	Fluoranthene	0.33	408.8	mg/kg	NA	--	--
SW8270C	Fluorene	0 33	408 8	mg/kg	NA	--	--
SW8270C	Indeno[1,2,3-*c,d*]pyrene	0 33	0.33	mg/kg	NA	--	--
SW8270C	Naphthalene	0 33	204 4	mg/kg	NA	--	--
SW8270C	Phenanthrene	0.33	306.6	mg/kg	NA	--	--
SW8270C	Pyrene	0.33	306.6	mg/kg	NA	--	--

Notes:
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are **bold** and enclosed in ( )
Values above RRS 2 are **bold** and enclosed in [( )]

-- = analyte not detected
NA = not analyzed
F = estimated value below the reporting limit
J = estimated value above the reporting limit

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1909 05 ft 2001-08-22	BHGLAOC1910 05 ft 2001-08-22	BHGLAOC1910 10 ft 2001-08-22
SW6010B	Arsenic	6.58	6.58	mg/kg	NA	NA	NA
SW6010B	Barium	128.1	200	mg/kg	NA	NA	NA
SW6010B	Beryllium	1.13	1.13	mg/kg	NA	NA	NA
SW6010B	Cadmium	0.59	0.59	mg/kg	NA	NA	NA
SW6010B	Chromium, total	16.31	16 31	mg/kg	NA	NA	NA
SW6010B	Cobalt	6.19	613.2	mg/kg	NA	NA	NA
SW6010B	Copper	13.72	130	mg/kg	NA	NA	NA
SW6010B	Nickel	19.76	204.4	mg/kg	NA	NA	NA
SW6010B	Tin	10	6132	mg/kg	NA	NA	NA
SW6010B	Vanadium	37.4	71.54	mg/kg	NA	NA	NA
SW6010B	Zinc	31.3	3066	mg/kg	NA	NA	NA
SW7041	Antimony	0.712	0 712	mg/kg	NA	NA	NA
SW7421	Lead	12 66	12.66	mg/kg	NA	NA	NA
SW7471A	Mercury	0.035	0 1513	mg/kg	NA	NA	NA
SW8260B	*cis*-1,2-Dichloroethene	0.005	7	mg/kg	NA	NA	NA
SW8260B	Trichloroethene (TCE)	0.005	0 5	mg/kg	NA	NA	NA
SW8270C	Acenaphthene	0.33	613.2	mg/kg	--	--	--
SW8270C	Anthracene	0.33	3066	mg/kg	--	--	--
SW8270C	Benzo[*a*]anthracene	0.33	0.33	mg/kg	--	--	--
SW8270C	Benzo[*a*]pyrene	0.33	0.33	mg/kg	--	0.077 F	--
SW8270C	Benzo[*b*]fluoranthene	0.33	0.33	mg/kg	--	--	--
SW8270C	Benzo[*g,h,i*]perylene	0.33	306 6	mg/kg	--	--	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0 392	mg/kg	--	--	--
SW8270C	Benzyl alcohol	0 33	3066	mg/kg	--	--	--
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0 6	mg/kg	--	--	--

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1909 05 ft 2001-08-22	BHGLAOC1910 05 ft 2001-08-22	BHGLAOC1910 10 ft 2001-08-22
SW8270C	Chrysene	0.33	3 92	mg/kg	--	--	--
SW8270C	Dibenz[*a,h*]anthracene	0.33	0.33	mg/kg	--	--	--
SW8270C	Dibenzofuran	0.33	40.88	mg/kg	--	--	--
SW8270C	Fluoranthene	0.33	408.8	mg/kg	--	--	--
SW8270C	Fluorene	0 33	408.8	mg/kg	--	--	--
SW8270C	Indeno[1,2,3-*c,d*]pyrene	0 33	0.33	mg/kg	--	--	--
SW8270C	Naphthalene	0 33	204.4	mg/kg	--	--	--
SW8270C	Phenanthrene	0.33	306 6	mg/kg	--	--	--
SW8270C	Pyrene	0.33	306.6	mg/kg	--	--	--

Notes:
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are **bold** and enclosed in ( )
Values above RRS 2 are **bold** and enclosed in [( )]

-- = analyte not detected
NA = not analyzed
F = estimated value below the reporting limit
J = estimated value above the reporting limit

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1911 10 ft 2001-12-05	BHGLAOC1911 10 ft 2001-12-05 Dup	BHGLAOC1912 05 ft 2001-12-05
SW6010B	Arsenic	6.58	6 58	mg/kg	NA	NA	NA
SW6010B	Barium	128.1	200	mg/kg	NA	NA	NA
SW6010B	Beryllium	1.13	1 13	mg/kg	NA	NA	NA
SW6010B	Cadmium	0.59	0 59	mg/kg	NA	NA	NA
SW6010B	Chromium, total	16.31	16.31	mg/kg	NA	NA	NA
SW6010B	Cobalt	6.19	613.2	mg/kg	NA	NA	NA
SW6010B	Copper	13 72	130	mg/kg	NA	NA	NA
SW6010B	Nickel	19 76	204.4	mg/kg	NA	NA	NA
SW6010B	Tin	10	6132	mg/kg	NA	NA	NA
SW6010B	Vanadium	37.4	71.54	mg/kg	NA	NA	NA
SW6010B	Zinc	31.3	3066	mg/kg	NA	NA	NA
SW7041	Antimony	0.712	0.712	mg/kg	NA	NA	NA
SW7421	Lead	12.66	12 66	mg/kg	NA	NA	NA
SW7471A	Mercury	0.035	0 1513	mg/kg	NA	NA	NA
SW8260B	*cis*-1,2-Dichloroethene	0.005	7	mg/kg	NA	NA	NA
SW8260B	Trichloroethene (TCE)	0 005	0.5	mg/kg	NA	--	NA
SW8270C	Acenaphthene	0.33	613.2	mg/kg	0 13 F	--	--
SW8270C	Anthracene	0 33	3066	mg/kg	0 23 F	**[(0.64)]**	--
SW8270C	Benzo[*a*]anthracene	0 33	0 33	mg/kg	**[(0.65)]**	**[(0.82 J)]**	--
SW8270C	Benzo[*a*]pyrene	0.33	0.33	mg/kg	**[(0.58 J)]**	**[(0.91)]**	--
SW8270C	Benzo[*b*]fluoranthene	0.33	0.33	mg/kg	**[(0.67)]**	**(0.52 J)**	--
SW8270C	Benzo[*g,h,i*]perylene	0 33	306.6	mg/kg	0.3 F	**[(0.62)]**	--
SW8270C	Benzo[*k*]fluoranthene	0.33	0 392	mg/kg	**[(0.47)]**	--	--
SW8270C	Benzyl alcohol	0 33	3066	mg/kg	--	0 16 F	--
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0.6	mg/kg	--	**(0.72)**	--

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1911 10 ft 2001-12-05	BHGLAOC1911 10 ft 2001-12-05 Dup	BHGLAOC1912 05 ft 2001-12-05
SW8270C	Chrysene	0 33	3.92	mg/kg	**(0.74)**	0 17 F	--
SW8270C	Dibenz[*a,h*]anthracene	0.33	0.33	mg/kg	--	**(1.1)**	--
SW8270C	Dibenzofuran	0.33	40.88	mg/kg	--	0.17 F	--
SW8270C	Fluoranthene	0.33	408.8	mg/kg	**(2.1 J)**	**[(0.5 J)]**	--
SW8270C	Fluorene	0.33	408.8	mg/kg	0.27 F	--	--
SW8270C	Indeno[1,2,3-*c,d*]pyrene	0.33	0 33	mg/kg	0.31 F	**(0.55 J)**	--
SW8270C	Naphthalene	0.33	204 4	mg/kg	0.082 F	**(1.2)**	--
SW8270C	Phenanthrene	0.33	306.6	mg/kg	**(1.6 J)**		--
SW8270C	Pyrene	0.33	306.6	mg/kg	**(1.3)**		--

Notes:
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are **bold** and enclosed in ( )
Values above RRS 2 are **bold** and enclosed in [( )]

-- = analyte not detected
NA = not analyzed
F = estimated value below reporting limit
J = estimated value above the reporting limit

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1912 10 ft 2001-12-05	BHGLAOC1913 05 ft 2001-12-05	BHGLAOC1913 10 ft 2001-12-05
SW6010B	Arsenic	6 58	6.58	mg/kg	NA	NA	NA
SW6010B	Barium	128.1	200	mg/kg	NA	NA	NA
SW6010B	Beryllium	1.13	1 13	mg/kg	NA	NA	NA
SW6010B	Cadmium	0.59	0.59	mg/kg	NA	NA	NA
SW6010B	Chromium, total	16.31	16.31	mg/kg	NA	NA	NA
SW6010B	Cobalt	6.19	613.2	mg/kg	NA	NA	NA
SW6010B	Copper	13.72	130	mg/kg	NA	NA	NA
SW6010B	Nickel	19.76	204.4	mg/kg	NA	NA	NA
SW6010B	Tin	10	6132	mg/kg	NA	NA	NA
SW6010B	Vanadium	37 4	71.54	mg/kg	NA	NA	NA
SW6010B	Zinc	31 3	3066	mg/kg	NA	NA	NA
SW7041	Antimony	0.712	0.712	mg/kg	NA	NA	NA
SW7421	Lead	12.66	12 66	mg/kg	NA	NA	NA
SW7471A	Mercury	0.035	0 1513	mg/kg	NA	NA	NA
SW8260B	*cis*-1,2-Dichloroethene	0.005	7	mg/kg	NA	NA	NA
SW8260B	Trichloroethene (TCE)	0 005	0.5	mg/kg	NA	**(0.051 J)**	**(0.036)**
SW8270C	Acenaphthene	0 33	613.2	mg/kg	--	NA	NA
SW8270C	Anthracene	0 33	3066	mg/kg	--	NA	NA
SW8270C	Benzo[*a*]anthracene	0.33	0 33	mg/kg	--	NA	NA
SW8270C	Benzo[*a*]pyrene	0 33	0.33	mg/kg	--	NA	NA
SW8270C	Benzo[*b*]fluoranthene	0 33	0 33	mg/kg	--	NA	NA
SW8270C	Benzo[*g,h,i*]perylene	0.33	306 6	mg/kg	--	NA	NA
SW8270C	Benzo[*k*]fluoranthene	0.33	0 392	mg/kg	--	NA	NA
SW8270C	Benzyl alcohol	0.33	3066	mg/kg	--	NA	NA
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0 6	mg/kg	--	NA	NA

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	BHGLAOC1912 10 ft 2001-12-05	BHGLAOC1913 05 ft 2001-12-05	BHGLAOC1913 10 ft 2001-12-05
SW8270C	Chrysene	0 33	3.92	mg/kg	--	NA	NA
SW8270C	Dibenz[*a,h*]anthracene	0.33	0.33	mg/kg	--	NA	NA
SW8270C	Dibenzofuran	0.33	40 88	mg/kg	--	NA	NA
SW8270C	Fluoranthene	0 33	408 8	mg/kg	--	NA	NA
SW8270C	Fluorene	0.33	408 8	mg/kg	--	NA	NA
SW8270C	Indeno[1,2,3-*c,d*]pyrene	0.33	0.33	mg/kg	--	NA	NA
SW8270C	Naphthalene	0.33	204.4	mg/kg	--	NA	NA
SW8270C	Phenanthrene	0.33	306.6	mg/kg	--	NA	NA
SW8270C	Pyrene	0.33	306 6	mg/kg	--	NA	NA

Notes:
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are **bold** and enclosed in ( )
Values above RRS 2 are **bold** and enclosed in [( )]

-- = analyte not detected
NA = not analyzed
F = estimated value below reporting limit
J = estimated value above the reporting limit

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	THGLA0C1905 05 ft 2001-08-15	WHGLTA050 05 ft 2001-02-07	WHGLTA051 05 ft 2001-02-07	WHGLTA052 05 ft 2001-02-07
SW6010B	Arsenic	6.58	6.58	mg/kg	3 5 F	NA	NA	NA
SW6010B	Barium	128.1	200	mg/kg	61.2	NA	NA	NA
SW6010B	Beryllium	1.13	1.13	mg/kg	0 28	NA	NA	NA
SW6010B	Cadmium	0.59	0.59	mg/kg	0.28 F	NA	NA	NA
SW6010B	Chromium, total	16.31	16.31	mg/kg	7.2 F	NA	NA	NA
SW6010B	Cobalt	6.19	613.2	mg/kg	2.4 F	NA	NA	NA
SW6010B	Copper	13.72	130	mg/kg	3.3 F	NA	NA	NA
SW6010B	Nickel	19 76	204.4	mg/kg	4.3 F	NA	NA	NA
SW6010B	Tin	10	6132	mg/kg	1.1 F	NA	NA	NA
SW6010B	Vanadium	37 4	71.54	mg/kg	15 F	NA	NA	NA
SW6010B	Zinc	31 3	3066	mg/kg	17 F	NA	NA	NA
SW7041	Antimony	0.712	0.712	mg/kg	--	NA	NA	NA
SW7421	Lead	12.66	12.66	mg/kg	7.9	NA	NA	NA
SW7471A	Mercury	0.035	0.1513	mg/kg	0 0092 F	NA	NA	NA
SW8260B	*cis*-1,2-Dichloroethene	0 005	7	mg/kg	--	NA	NA	NA
SW8260B	Trichloroethene (TCE)	0.005	0.5	mg/kg	--	0.002 F	0 001 F	--
SW8270C	Acenaphthene	0.33	613.2	mg/kg	0 17 F	NA	NA	NA
SW8270C	Anthracene	0 33	3066	mg/kg	(0.38)	NA	NA	NA
SW8270C	Benzo[*a*]anthracene	0 33	0.33	mg/kg	[(2)]	NA	NA	NA
SW8270C	Benzo[*a*]pyrene	0.33	0.33	mg/kg	[(1.8)]	NA	NA	NA
SW8270C	Benzo[*b*]fluoranthene	0.33	0 33	mg/kg	[(2.2)]	NA	NA	NA
SW8270C	Benzo[*g,h,i*]perylene	0 33	306 6	mg/kg	(1.3)	NA	NA	NA
SW8270C	Benzo[*k*]fluoranthene	0.33	0.392	mg/kg	[(1.4)]	NA	NA	NA
SW8270C	Benzyl alcohol	0 33	3066	mg/kg	--	NA	NA	NA
SW8270C	bis(2-Ethylhexyl)phthalate	0 33	0 6	mg/kg	[(0.66)]	NA	NA	NA

Table 4.4 (continued)
Subsurface Soil Detections
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	RRS 1	RRS 2	Unit	THGLA0C1905 05 ft 2001-08-15	WHGLTA050 05 ft 2001-02-07	WHGLTA051 05 ft 2001-02-07	WHGLTA052 05 ft 2001-02-07
SW8270C	Chrysene	0.33	3.92	mg/kg	**(2)**	NA	NA	NA
SW8270C	Dibenz[*a,h*]anthracene	0.33	0.33	mg/kg	**[(0.43)]**	NA	NA	NA
SW8270C	Dibenzofuran	0.33	40.88	mg/kg	0.077 F	NA	NA	NA
SW8270C	Fluoranthene	0.33	408 8	mg/kg	**(3.5)**	NA	NA	NA
SW8270C	Fluorene	0 33	408.8	mg/kg	0.14 F	NA	NA	NA
SW8270C	Indeno[1,2,3-*c,d*]pyrene	0.33	0.33	mg/kg	**[(1.1)]**	NA	NA	NA
SW8270C	Naphthalene	0.33	204.4	mg/kg	--	NA	NA	NA
SW8270C	Phenanthrene	0.33	306.6	mg/kg	**(2.1)**	NA	NA	NA
SW8270C	Pyrene	0.33	306.6	mg/kg	**(3.6)**	NA	NA	NA

Notes:
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 1 are **bold** and enclosed in ( )
Values above RRS 2 are **bold** and enclosed in [( )]

-- = analyte not detected
NA = not analyzed
F = estimated value below reporting limit
J = estimated value above the reporting limit

Table 4.5
Groundwater Sampling Results
AOC 19
NAS Fort Worth JRB, Texas

Monitoring Well	RRS 1	RRS 2	Unit	TCE FEB. 2001	TCE APR. 2001	TCE JUNE 2001
WHGLTA004	0.0005	0.005	mg/L	**[(0.530]**	**[(0.45)]**	**[(0.66)]**
WHGLTA050	0.0005	0.005	mg/L	**[(0.15 J)]**	**[(0.17)]**	**[(0.26)]**
WHGLTA051	0.0005	0.005	mg/L	**[(0.19)]**	**[(0.17)]**	**[(0.31)]**
WHGLTA052	0.0005	0.005	mg/L	**[(0.3)]**	**[(0.3)]**	**[(0.57)]**
WHGLTA801	0.0005	0.005	mg/L	**[(0.36)]**	**[(0.15)]**	**[(0.32)]**
WHGLTA801 Duplicate	0.0005	0.005	mg/L	**[(0.26)]**	**[(0.17)]**	**[(0.34)]**

Notes:
TCE - trichloroethene
RRS 1 = Risk Reduction Standard 1
RRS 2 = Risk Reduction Standard 2
Values above RRS 2 are bold and enclosed in [( )]
J = estimated value above the reporting limit

FIGURES

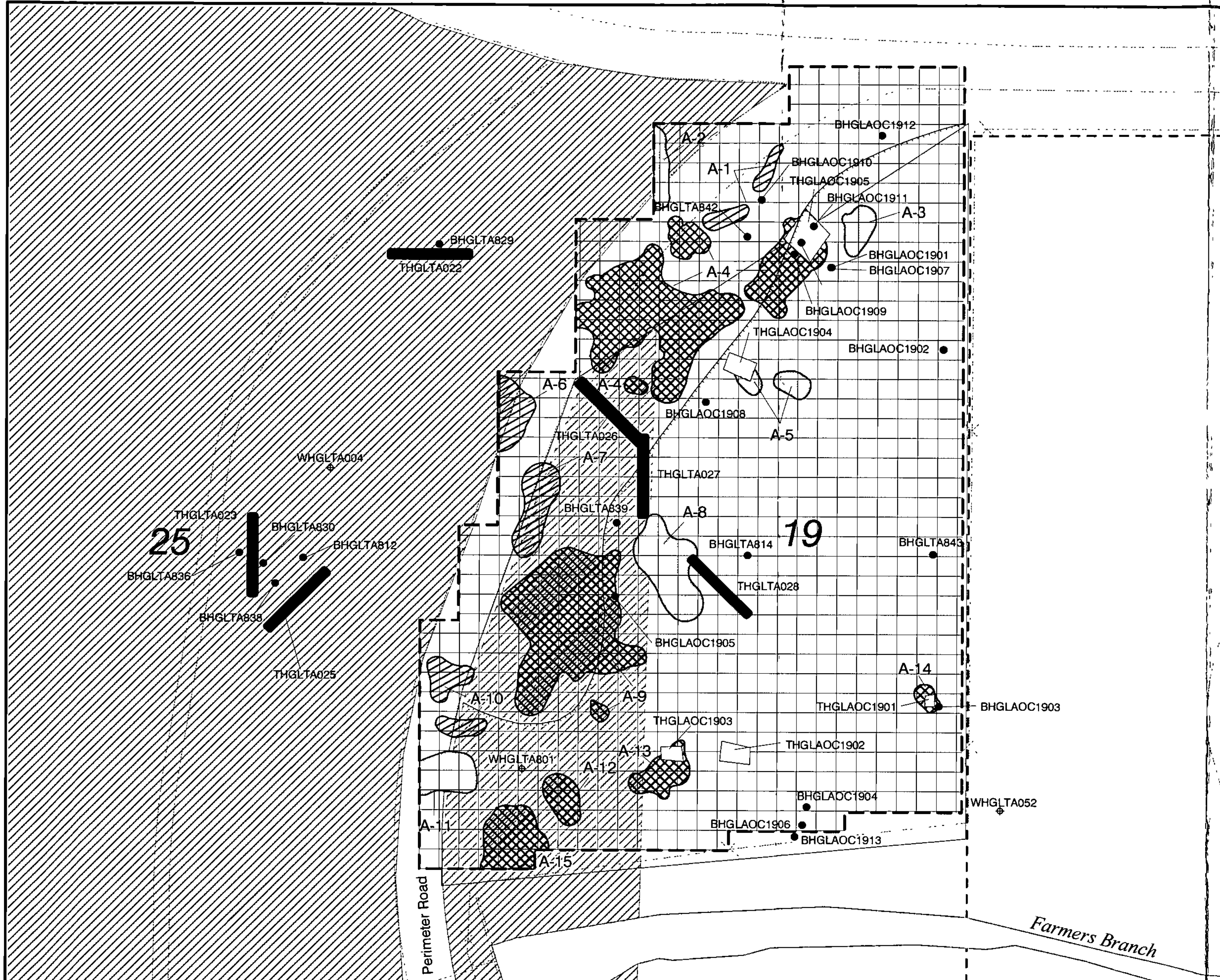


Figure 4.1
Geophysical Results and Excavation Locations AOC 19 - Suspected Former Fire Training Area B

U.S. Air Force Center for Environmental Excellence

Legend

- NAS Fort Worth JRB (Carswell Field) Boundary
- Geophysical Boundary
- SWMU 25 Test pit (1997)
- Edge of Berm (Approximate)
- AOC 19 Exploratory Excavation (2001)
- Soil Boring Location
- Monitoring Well Location
- Solid Waste Management Unit 25 (Landfill 8)
- Area of Concern 19
- High Concentration of Buried Metal
- Moderate Concentration of Buried Metal
- Low Concentration of Buried Metal
- Geophysical Grid - 10 ft. x 10 ft.

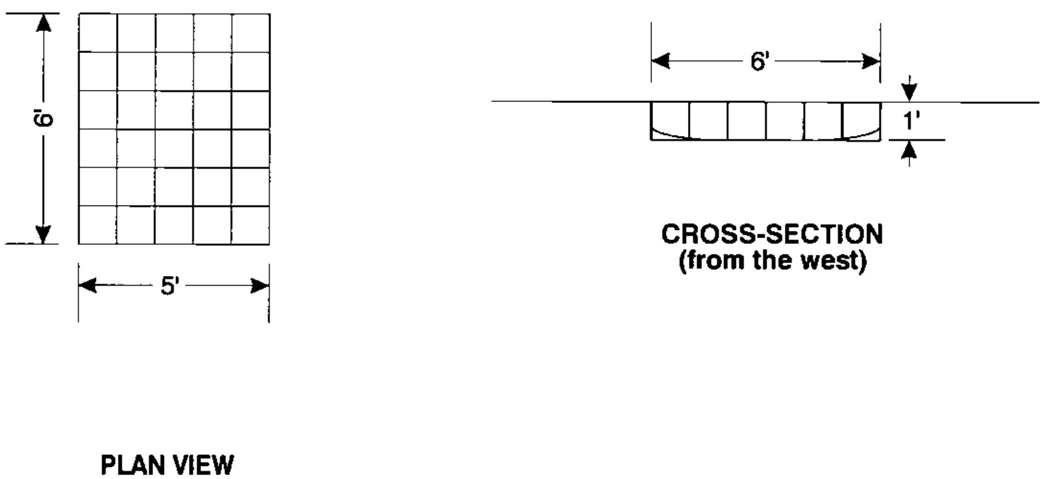
N

File: 17A-83-2
D.E.

50 0 50
SCALE IN FEET

Filename X \AFC001\26\aoc19_site_investigation\Report\gi_aoc19 apr
Created 04/11/01 jbelcher
Revised 02/27/02 jb
Project AFC001-026-20
Map Source HydroGeoLogic, Inc., ArcView GIS Database, 2001; IT Corporation, 2001

HYDROGEOLOGIC INC



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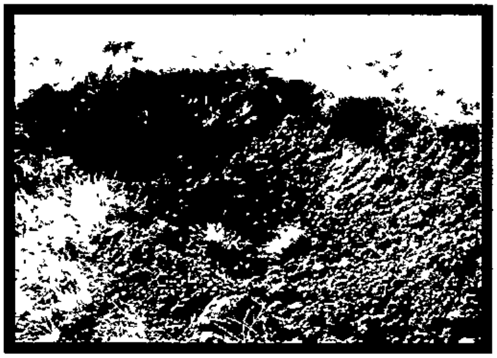
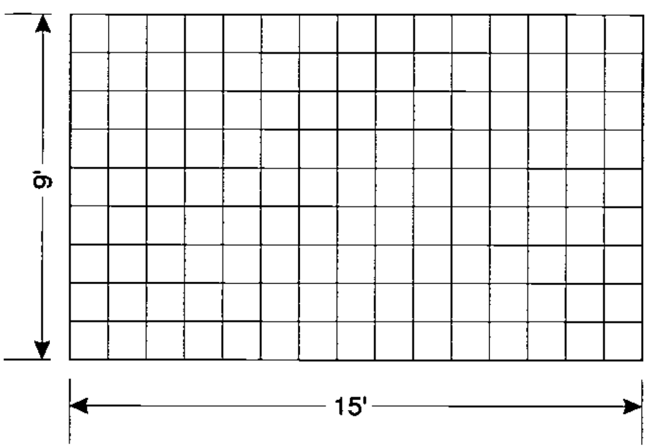
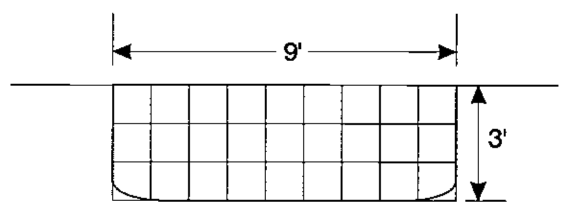


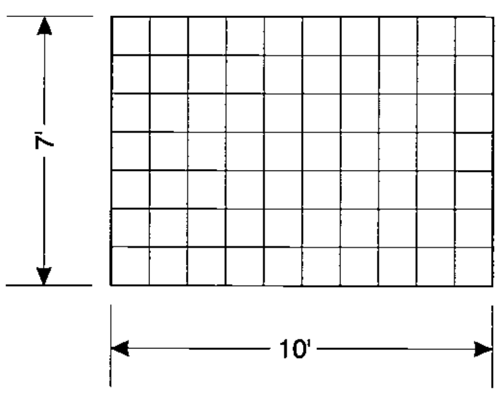




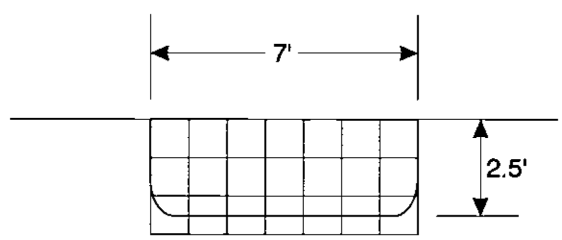
CROSS-SECTION
(from the west)

PLAN VIEW

Filename X \AFC001\26\aoc19_site_investigation\ Report\aoc_19_as-builts cdr *Project AFC001-026-20* *Created by cfarmer 10/01/01* *Revised 02/22/02 asp* *Source* HYDRO GeoLogic INC	**Legend** N 1 Grid Cell = 1 Foot	**Figure 4.3** **Photos and Exploratory Excavation Dimensions** **THGLAOC1902**



PLAN VIEW



CROSS-SECTION
(from the west)

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Project AFC001-026-20
Created by cfarmer 10/01/01
Revised 02/22/02 asp
Source

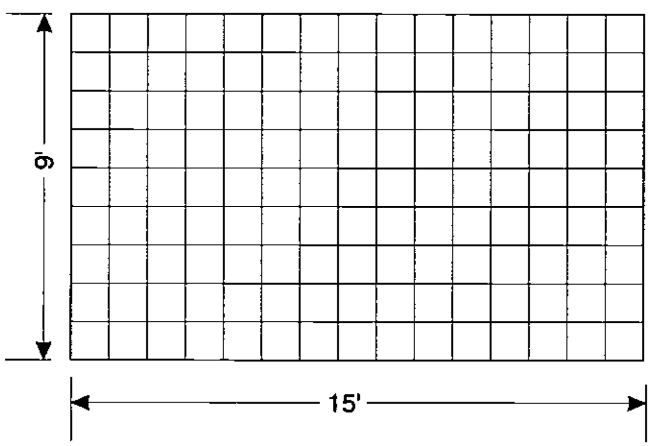
HYDRO GeoLogic INC.

Legend

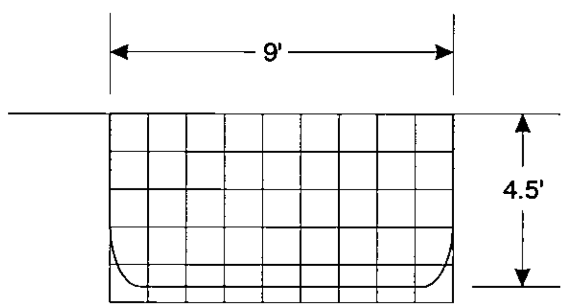
1 Grid Cell = 1 Foot

N

Figure 4.4
Photos and Exploratory Excavation Dimensions
THGLAOC1903



PLAN VIEW



CROSS-SECTION
(from the west)

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Project AFC001-026-20
Created by cfarmer 10/01/01
Revised 02/22/02 asp
Source

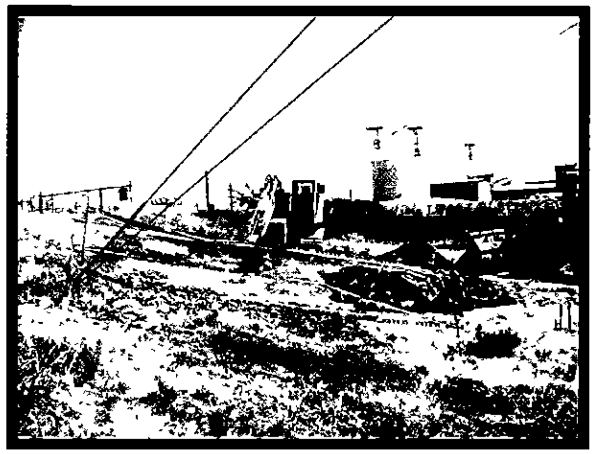
HYDRO GeoLogic INC.

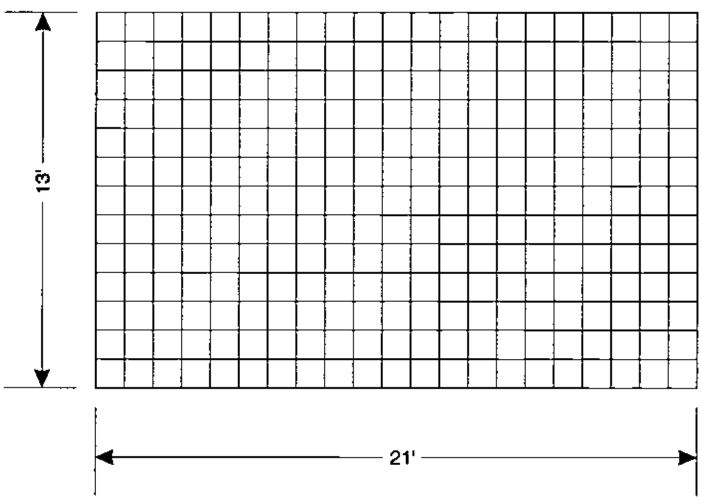
Legend

1 Grid Cell = 1 Foot

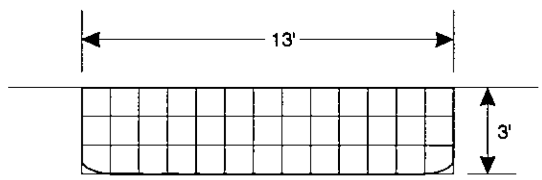
N

Figure 4.5
Photos and Exploratory Excavation Dimensions
THGLAOC1904





PLAN VIEW



CROSS-SECTION
(from the west)

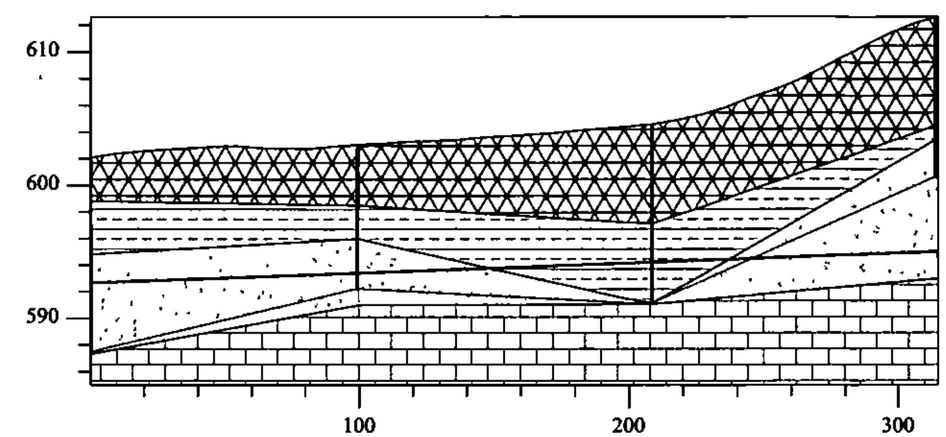
Filename X \AFC001\26\aoc19_site_investigation\Report\aoc_19_as-builts cdr
Project AFC001-026-20
Created by cfarmer 10/01/01
Revised 02/22/02 asp
Source

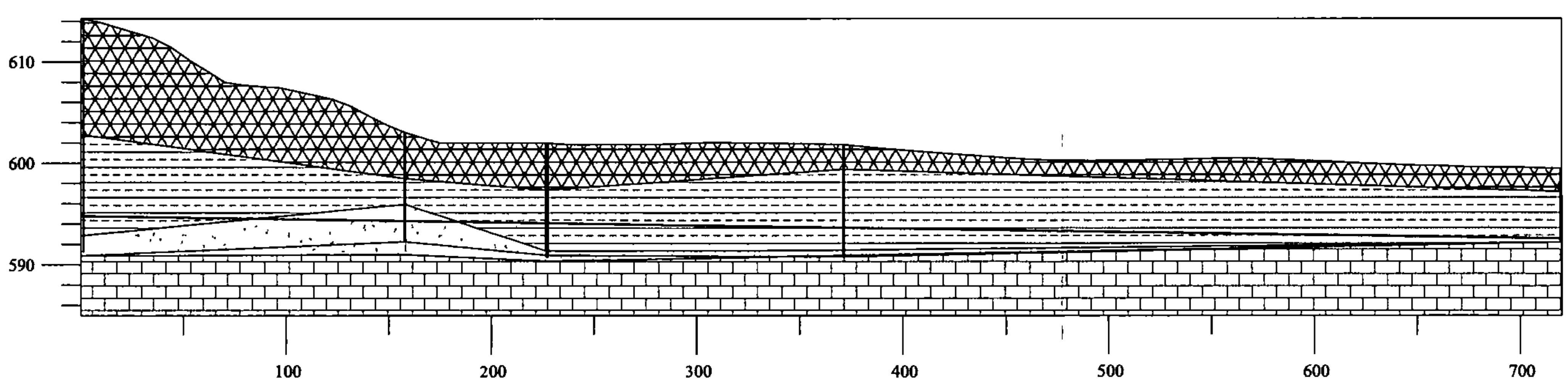
Legend

N

1 Grid Cell = 1 Foot

Figure 4.6
Photos and Exploratory Excavation Dimensions
THGLAOC1905





Vertical Exaggeration = 5x

Figure 4.7
AOC 19
Lithologic Cross Sections
A - A' and B - B'

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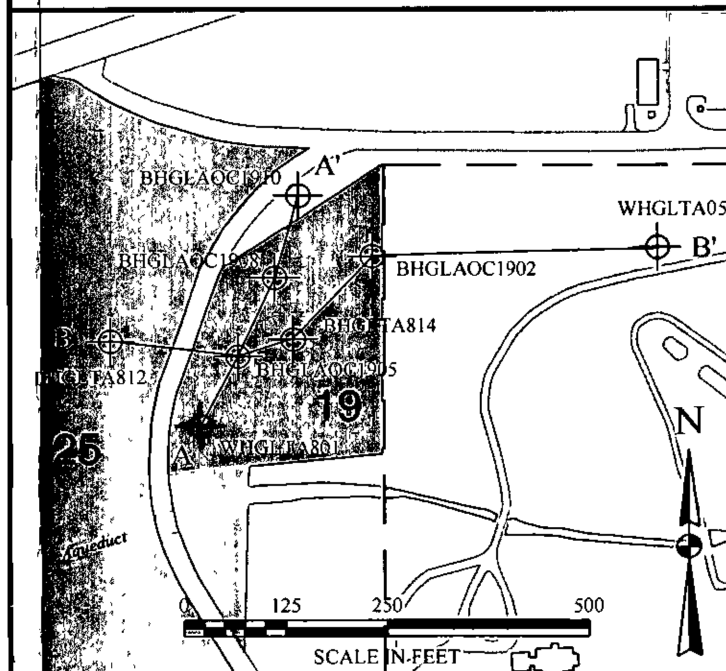
Legend

- Fill
- Silty Sandy Clay
- Clayey Sandy Gravel
- Bedrock
- Elevation of Bottom of Borings
- Groundwater Elevation (October 2001)
- AOC
- SWMU
- NAS Fort Worth Boundary
- Monitoring Well
- Boring Location



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Created by jrths 11/02/01
Revised 02/25/02 asp
Map Source

File: 17A-83-2
D.E.

HydroGeoLogic, Inc —Site Investigation Report, AOC 19
NAS Fort Worth JRB, Texas

Figure 4.8
Analyte Concentrations in Soil Above RRS1
AOC 19
Suspected Former Fire Training Area B

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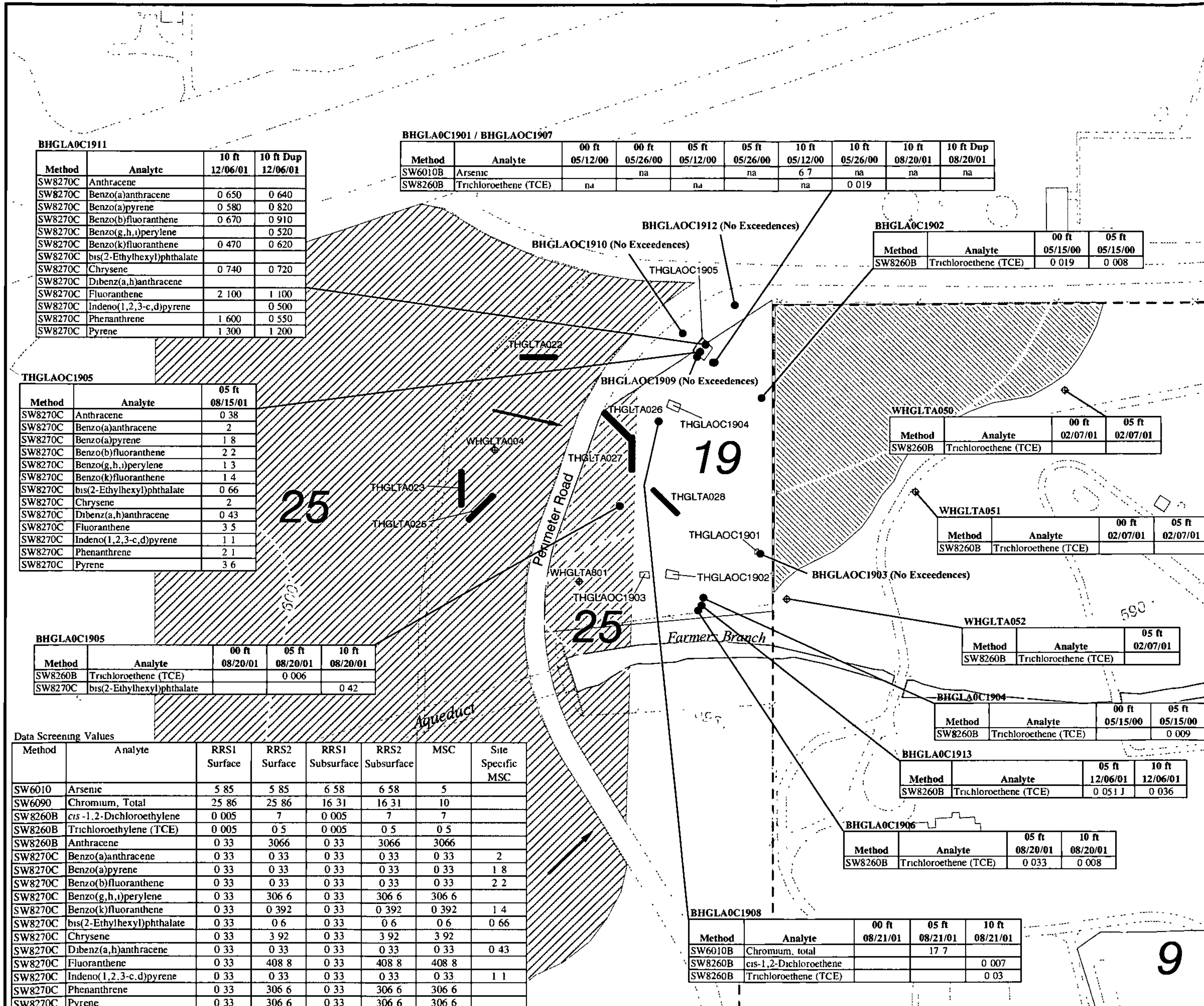

BHGLAOC1901 / BHGLAOC1907

Method	Analyte	00 ft 05/12/00	00 ft 05/26/00	05 ft 05/12/00	05 ft 05/26/00	10 ft 05/12/00	10 ft 05/26/00	10 ft 08/20/01	10 ft Dup 08/20/01
SW6010B	Arsenic		na		na	6.7	na	na	na
SW8260B	Trichloroethene (TCE)	na		na		na	0.019		

BHGLAOC1911

Method	Analyte	10 ft 12/06/01	10 ft Dup 12/06/01
SW8270C	Anthracene		
SW8270C	Benzo(a)anthracene	0.650	0.640
SW8270C	Benzo(a)pyrene	0.580	0.820
SW8270C	Benzo(b)fluoranthene	0.670	0.910
SW8270C	Benzo(g,h,i)perylene		0.520
SW8270C	Benzo(k)fluoranthene	0.470	0.620
SW8270C	bis(2-Ethylhexyl)phthalate		
SW8270C	Chrysene	0.740	0.720
SW8270C	Dibenz(a,h)anthracene		
SW8270C	Fluoranthene	2.100	1.100
SW8270C	Indeno(1,2,3-c,d)pyrene		0.500
SW8270C	Phenanthrene	1.600	0.550
SW8270C	Pyrene	1.300	1.200

BHGLAOC1902

Method	Analyte	00 ft 05/15/00	05 ft 05/15/00
SW8260B	Trichloroethene (TCE)	0.019	0.008

THGLAOC1905

Method	Analyte	05 ft 08/15/01
SW8270C	Anthracene	0.38
SW8270C	Benzo(a)anthracene	2
SW8270C	Benzo(a)pyrene	1.8
SW8270C	Benzo(b)fluoranthene	2.2
SW8270C	Benzo(g,h,i)perylene	1.3
SW8270C	Benzo(k)fluoranthene	1.4
SW8270C	bis(2-Ethylhexyl)phthalate	0.66
SW8270C	Chrysene	2
SW8270C	Dibenz(a,h)anthracene	0.43
SW8270C	Fluoranthene	3.5
SW8270C	Indeno(1,2,3-c,d)pyrene	1.1
SW8270C	Phenanthrene	2.1
SW8270C	Pyrene	3.6

WHGLTA050

Method	Analyte	00 ft 02/07/01	05 ft 02/07/01
SW8260B	Trichloroethene (TCE)		

WHGLTA051

Method	Analyte	00 ft 02/07/01	05 ft 02/07/01
SW8260B	Trichloroethene (TCE)		

WHGLTA052

Method	Analyte	05 ft 02/07/01
SW8260B	Trichloroethene (TCE)	

BHGLAOC1905

Method	Analyte	00 ft 08/20/01	05 ft 08/20/01	10 ft 08/20/01
SW8260B	Trichloroethene (TCE)		0.006	
SW8270C	bis(2-Ethylhexyl)phthalate			0.42

BHGLAOC1904

Method	Analyte	00 ft 05/15/00	05 ft 05/15/00
SW8260B	Trichloroethene (TCE)		0.009

BHGLAOC1913

Method	Analyte	05 ft 12/06/01	10 ft 12/06/01
SW8260B	Trichloroethene (TCE)	0.051 J	0.036

BHGLAOC1906

Method	Analyte	05 ft 08/20/01	10 ft 08/20/01
SW8260B	Trichloroethene (TCE)	0.033	0.008

BHGLAOC1908

Method	Analyte	00 ft 08/21/01	05 ft 08/21/01	10 ft 08/21/01
SW6010B	Chromium, total		17.7	
SW8260B	cis-1,2-Dichloroethene			0.007
SW8260B	Trichloroethene (TCE)			0.03

Data Screening Values

Method	Analyte	RRS1 Surface	RRS2 Surface	RRS1 Subsurface	RRS2 Subsurface	MSC	Site Specific MSC
SW6010	Arsenic	5.85	5.85	6.58	6.58	5	
SW6090	Chromium, Total	25.86	25.86	16.31	16.31	10	
SW8260B	*cis*-1,2-Dichloroethylene	0.005	7	0.005	7	7	
SW8260B	Trichloroethylene (TCE)	0.005	0.5	0.005	0.5	0.5	
SW8260B	Anthracene	0.33	3066	0.33	3066	3066	
SW8270C	Benzo(a)anthracene	0.33	0.33	0.33	0.33	0.33	2
SW8270C	Benzo(a)pyrene	0.33	0.33	0.33	0.33	0.33	1.8
SW8270C	Benzo(b)fluoranthene	0.33	0.33	0.33	0.33	0.33	2.2
SW8270C	Benzo(g,h,i)perylene	0.33	306.6	0.33	306.6	306.6	
SW8270C	Benzo(k)fluoranthene	0.33	0.392	0.33	0.392	0.392	1.4
SW8270C	bis(2-Ethylhexyl)phthalate	0.33	0.6	0.33	0.6	0.6	0.66
SW8270C	Chrysene	0.33	3.92	0.33	3.92	3.92	
SW8270C	Dibenz(a,h)anthracene	0.33	0.33	0.33	0.33	0.33	0.43
SW8270C	Fluoranthene	0.33	408.8	0.33	408.8	408.8	
SW8270C	Indeno(1,2,3-c,d)pyrene	0.33	0.33	0.33	0.33	0.33	1.1
SW8270C	Phenanthrene	0.33	306.6	0.33	306.6	306.6	
SW8270C	Pyrene	0.33	306.6	0.33	306.6	306.6	

Legend

- NAS Fort Worth JRB (Carswell Field)
- Groundwater Elevation Contour (April 2001)
- Area of Concern (AOC)
- Solid Waste Management Unit (SWMU)
- Debris Area (No Rig Access)
- Monitoring Well
- Phase I Soil Boring
- Phase II Soil Boring
- SWMU 25 Test Pit (1997)
- AOC 19 Exploratory Excavation (2001)
- Generalized Groundwater Flow

Gold — Headers indicate characterization/confirmation samples
Grey — Headers indicate delineation samples
Yellow — Headers indicate data screening values

Color Codes
- Analyte detected above RRS-2
- Analyte detected above RRS-2, but below site-specific MSC
- Analyte detection above RRS-1 or RRS-2, but not confirmed
- Analyte not detected or detected below RRS-1

All results in mg/kg.

MSC - Media Specific Concentration GWP-Ind
na - Not Analyzed
RRS-1 - Risk Reduction Standard 1
RRS-2 - Risk Reduction Standard 2

N

100 0 100 200
SCALE IN FEET

Filename: X \AFC001\26\aoc19_site_investigation\Report\analyte_in_soil apr
Project AFC001-026-20
Created · 09/20/00 ASP
Revised 02/27/02 jb
Map Source: HGL GIS Database

File: 17A-83-2
D.E.

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HydroGeoLogic, Inc —Site Investigation Report, AOC 19
NAS Fort Worth JRB, Texas

Figure 4.9
Analyte Concentrations in Groundwater Above RRS1
AOC19
Suspected Former Fire Training Area B

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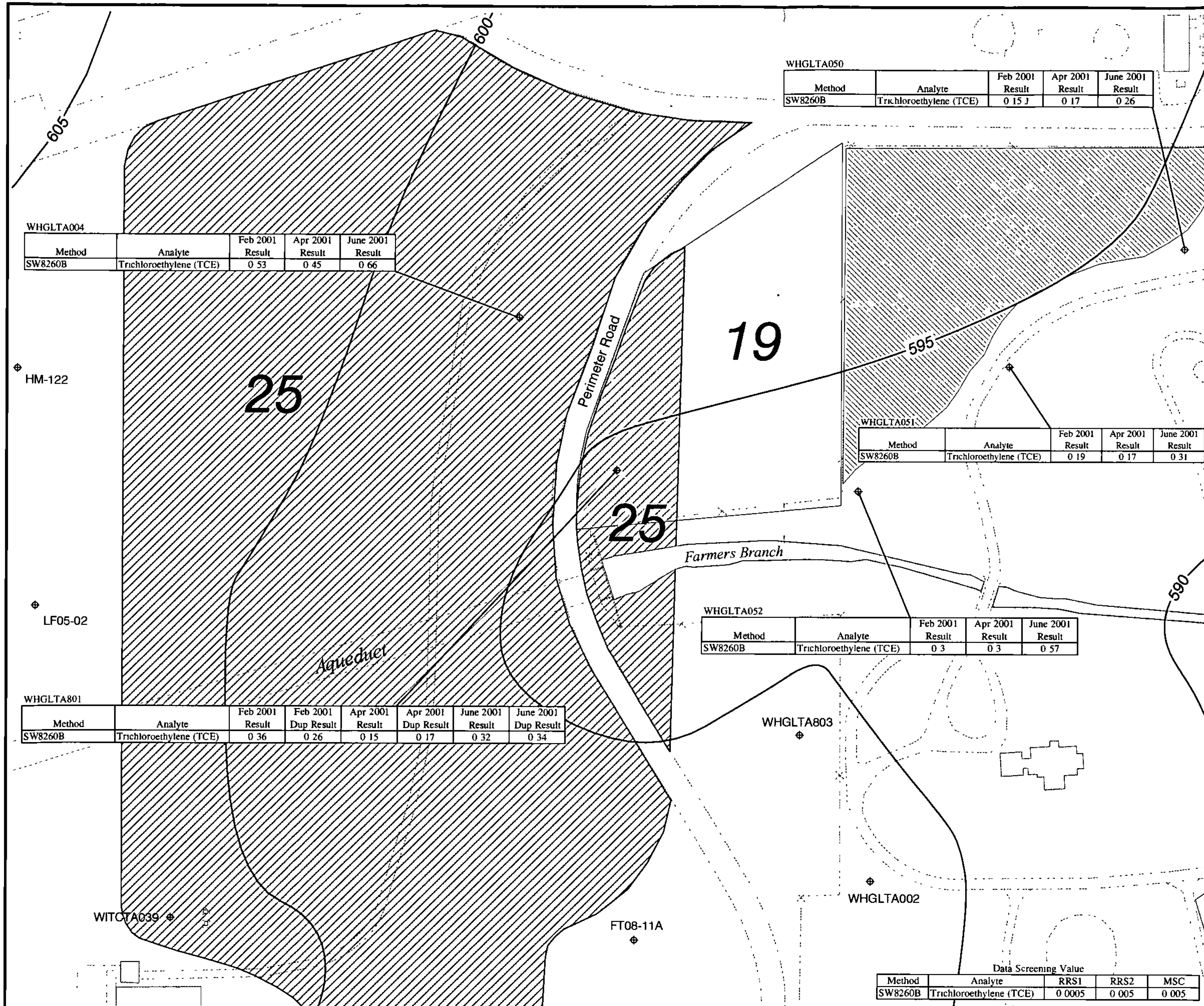

WHGLTA050

Method	Analyte	Feb 2001 Result	Apr 2001 Result	June 2001 Result
SW8260B	Trichloroethylene (TCE)	0 15 J	0 17	0 26

WHGLTA004

Method	Analyte	Feb 2001 Result	Apr 2001 Result	June 2001 Result
SW8260B	Trichloroethylene (TCE)	0 53	0 45	0 66

WHGLTA051

Method	Analyte	Feb 2001 Result	Apr 2001 Result	June 2001 Result
SW8260B	Trichloroethylene (TCE)	0 19	0 17	0 31

WHGLTA052

Method	Analyte	Feb 2001 Result	Apr 2001 Result	June 2001 Result
SW8260B	Trichloroethylene (TCE)	0 3	0 3	0 57

WHGLTA801

Method	Analyte	Feb 2001 Result	Feb 2001 Dup Result	Apr 2001 Result	Apr 2001 Dup Result	June 2001 Result	June 2001 Dup Result
SW8260B	Trichloroethylene (TCE)	0 36	0 26	0 15	0 17	0 32	0 34

Data Screening Value

Method	Analyte	RRS1	RRS2	MSC
SW8260B	Trichloroethylene (TCE)	0 0005	0 005	0 005

Legend

Solid Waste Management Unit (SWMU)

Area of Concern (AOC)

Debris Area (No Rig Access)

Monitoring Well Location

—600— Groundwater Contour (April 2001)

Data Screening Values
Groundwater Results in mg/L
Analyte detected above MSC
Analyte not detected, or detected below the MSC.

File: 17A-83-2
D.E.

N

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SCALE IN FEET

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Project AFC001-026-20
Created 09/20/00 ASP
Revised 02/27/02 jb
Map Source. HGL GIS Database

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TAB

SECTION 5.0

5.0 DISCUSSION OF ANALYTICAL RESULTS

5.1 GEOPHYSICAL SURVEY

The geophysical survey and subsequent exploratory excavations conducted at AOC 19 revealed the source of the metallic anomalies to be consistent with material found in a landfill, and not a fire training area. The analytical results of the surface and subsurface soil sampling within and around the anomalies likewise were not indicative of a former fire training area. As a result, the subsurface materials found at AOC 19 are most likely to be an extension of the former landfill SWMU 25/Landfill 8.

5.2 SURFACE SOIL

No concentrations of any inorganic constituents were detected above RRS 1 in any of the surface soil samples collected as part of the SI at AOC 19. The only analyte detected above RRS 1 in the surface soil at AOC 19 was TCE. Figure 4.8 depicts the relevant surface soil results for AOC 19.

- **TCE** was detected at 0.019 mg/kg in the surface soil sample collected from boring BHGLAOC1902. The concentration is an isolated detection in the surface soil, slightly exceeding the RRS 1 (0.005 mg/kg), and well below the MSC (0.5 mg/kg) for this analyte. This low concentration of TCE is delineated in the surface soil by WHGLTA050 (east), BHGLAOC1903 (south), BHGLAOC1908 (west), BHGLAOC1901 (north), and vertically by a lower concentration at the 5-foot interval. Based on this information, TCE does not warrant further investigation in the surface soils at AOC 19.

5.3 SUBSURFACE SOIL

Concentrations of both inorganic and organic analytes were found in the subsurface soil at AOC 19. Figure 4.8 depicts the relevant subsurface soil results for AOC 19. These constituents are discussed in the following subsections.

5.3.1 Inorganic Constituents

The following inorganic constituents were detected at concentrations slightly above their corresponding background values in samples collected in the subsurface at AOC 19: arsenic and chromium.

- **Arsenic** was detected at 6.7 mg/kg in the soil sample collected from the 10-foot interval of BHGLAOC1901. This result was isolated and only slightly exceeds both the background and MSC value of 6.58 mg/kg. No pattern of occurrence can be established for this compound. Therefore, this detection of arsenic most likely represents a natural variation of background concentrations. Based on this information, this constituent does not warrant further investigation at AOC 19.

- **Chromium** was detected at 17.7 mg/kg in the soil sample collected from BHGLAOC1908 in the 5-foot interval. The concentration was only slightly above the background value of 16.31 mg/kg. No pattern of occurrence can be established for this compound. Therefore, this inorganic constituent is likely to represent a natural variation of background concentrations and is not indicative of a release of hazardous constituents from AOC 19. Based on this information, this constituent does not warrant further consideration at AOC 19.

5.3.2 Organic Constituents

Several organic constituents were detected in the subsurface soil at AOC 19. A total of two VOCs were detected at concentrations above their corresponding RRS 1 values: *cis*-1,2-dichloroethene and TCE. The following SVOC constituents were detected at concentrations exceeding RR1 and or RRS 2 values in the subsurface at AOC 19: bis(2-ethylhexyl)phthalate and various PAHs [anthracene, benzo[*a*]anthracene, benzo[*a*]pyrene, benzo[*b*]fluoranthene, benzo[*g,h,i*]perylene, benzo[*k*]fluoranthene, chrysene, dibenz[*a,h*]anthracene, fluoranthene, indeno[1,2,3-*c,d*]pyrene, phenanthrene, and pyrene].

- ***cis*-1,2-Dichloroethene** was detected at 0.007 mg/kg in boring BHGLAOC1908 at the 10-foot interval. *Cis*-1,2-dichloroethene was detected only once, the result was slightly above RRS 1 (0.005 mg/kg) and well below the MSC (7 mg/kg), and the analyte is delineated. As a result, no pattern of occurrence can be established for this analyte. Based on this information, this constituent does not warrant further investigation at AOC 19.

- **Trichloroethene** was detected in the following soil samples: the 10-foot interval of boring BHGLAOC1901 (0.019 mg/kg); the 5-foot interval of boring BHGLAOC1902 (0.008 mg/kg); the 5-foot interval of boring BHGLAOC1904 (0.009); the 5-foot interval of boring BHGLAOC1905 (0.006 mg/kg); the 5- and 10-foot intervals of boring BHGLAOC1906 (0.033 mg/kg and 0.008 J mg/kg, respectively); the 10-foot interval of boring BHGLAOC1908 (0.030 mg/kg); and the 5- and 10-foot intervals of boring BHGLAOC1913 (0.051 J mg/kg and 0.036 mg/kg, respectively). TCE was detected at low concentrations above RRS 1 (0.005 mg/kg) and well below RRS 2 (7 mg/kg) throughout the site. The TCE concentrations in the subsurface soils at AOC 19 do not appear to be associated with a release from the site. The bedrock and water table at AOC 19 is shallow, therefore the low concentrations of TCE in the soil are most likely attributed to a smear zone created by seasonal fluctuations in the water table from the basewide TCE plume previously mentioned in Section 3.2. In addition, all TCE concentrations in the subsurface soils at AOC 19 have been delineated to decreasing concentrations and/or RRS 1. As a result, further investigation of TCE in the soil at AOC 19 is not warranted.

- **bis(2-Ethylhexyl)phthalate** was detected at 0.42 mg/kg in the soil sample collected from the 10-foot interval of boring BHGLAOC1905 and at 0.66 mg/kg in the soil sample collected from the bottom of THGLAOC1905. Both of these results are above the RRS 1 of 0.33 mg/kg. However, BHGLAOC1905 was below the MSC (0.6 mg/kg) and THGLAOC1905-02 exceeded the MSC. An SPLP extract of THGLAOC1905-02 was analyzed and a site-specific MSC of 0.66 mg/kg was developed. Bis(2-ethylhexyl)phthalate is delineated and based on the SPLP extraction result, shows no impact on groundwater. As a result, this constituent does not warrant further investigation at AOC 19.

- **PAHs** were detected in THGLAOC1905 and BHGLAOC1911. Twelve of the sixteen PAH compounds were detected above RRS 1 in the sample collected from the floor sample from THGLAOC1905, and ten were detected above RRS 1 in the 10-foot interval (or its duplicate) of boring BHGLAOC1911. Soil sample THGLAOC1905-02 was extracted for SPLP and the resulting water sample was a non-detect for all of the PAHs above RRS 2. These results established new site-specific MSCs and showed that the concentrations of these analytes in the soil are protective of groundwater. These analytes are fully delineated horizontally and vertically at AOC 19. Therefore further investigation of PAHs in the subsurface soil at AOC 19 is not warranted.

5.4 GROUNDWATER

Three rounds of groundwater sampling were conducted at cross- and downgradient monitoring wells WHGLTA050, WHGLTA051, WHGLTA052, WHGLTA801, and upgradient monitoring well WHGLTA004. Groundwater samples from all five monitoring wells were analyzed for TCE, the only COPC identified in soil during Phase I. TCE was detected above RRS 2 in all five wells during the three rounds of sampling. The upgradient well, WHGLTA004, consistently had the highest detections of TCE, with concentrations decreasing down- and crossgradient from AOC 19. As a result, concentrations of TCE in the groundwater beneath AOC 19 appear to be attributed to the basewide TCE plume (Section 3.2) and do not appear to be a result of a release from AOC 19. Therefore, it is recommended that the groundwater at AOC 19 be addressed with the basewide TCE plume under a separate and ongoing environmental restoration project.

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TAB

SECTION 6.0

6.0 CONCLUSIONS

This SI of AOC 19 has been conducted in accordance with Chapter 335, Subchapter S of the TNRCC Risk Reduction Rules and NAS Fort Worth JRB Hazardous Waste Permit, HW-50289. Evidence resulting from past fire training activities typically includes elevated PID readings and odors due to high concentrations of flammable compounds such as waste oils and solvents that might have been used to ignite a training fire. In addition, stained soil is often present in conjunction with odors and organic vapor readings. The physical characteristics observed during the SI at AOC 19 were not indicative of typical fire training activities. No elevated PID readings, staining, or odors were observed in site soils and analytical results did not indicate the presence of organic constituents typically found at fire training areas. Therefore, it is unlikely that significant fire training exercises were conducted historically at AOC 19.

Although physical observations and analytical data support the conclusion that AOC 19 was not utilized extensively as a fire training area, the analytical results indicate that former activities at AOC 19 may have had an impact on a small area of subsurface soil. SVOC contaminated soil was identified in the north central section of the site relating to the buried debris unearthed during the exploratory excavations. The SVOCs in this section of the site have been delineated. Due to this small area of SVOC contamination in soil, closure under RRS 2 is recommended for AOC 19.

TCE was detected in soil and groundwater samples collected as part of the AOC 19 SI. However, these concentrations are likely attributable to the basewide TCE plume rather than to historical site activities. This conclusion is supported by the migration of the TCE plume beneath AOC 19 and that concentrations of TCE are consistently higher upgradient of AOC 19. As TCE concentrations in groundwater do not increase downgradient of AOC 19, it can be concluded that AOC 19 is not a source of TCE contamination in groundwater. Groundwater contamination in the vicinity of AOC 19 will continue to be addressed by the ongoing investigation of the basewide TCE plume. Nonetheless, as RRS 2 concentrations of TCE exist in site soils, the deed certification language will identify TCE as a contaminant left in place as part of this investigation.

Pursuant with Chapter 335, Subchapter S, and Sections 335.555 through 335.560 of the TNRCC RRS, this SI demonstrates that attainment of RRS 2 (Closure/Remediation to health-based standards and criteria) has been achieved and closure of AOC 19 is recommended. The proposed deed certification language, including the metes and bounds survey, is presented in Appendix H.

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FIGURE

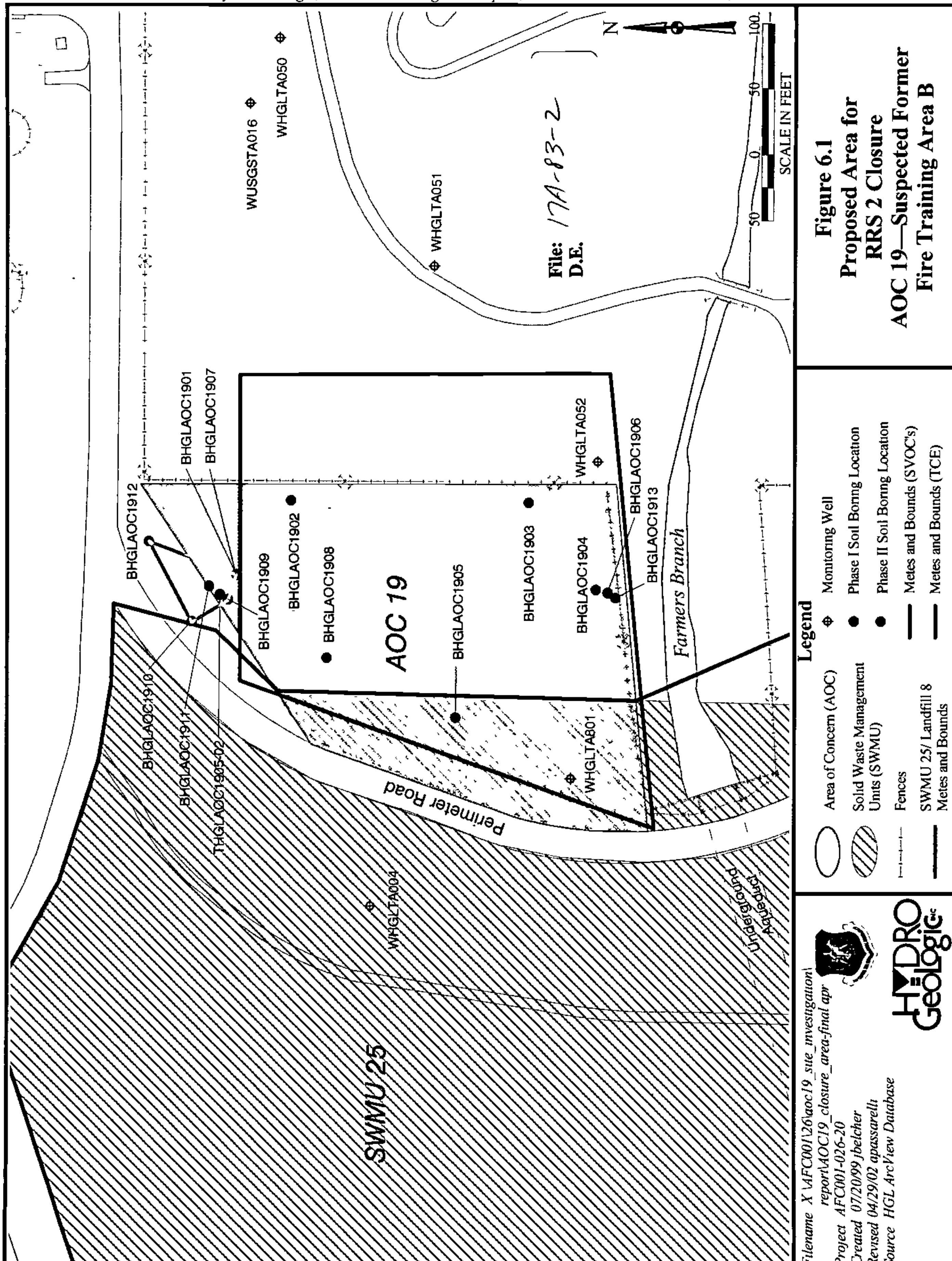

Figure 6.1
Proposed Area for RRS 2 Closure
AOC 19—Suspected Former Fire Training Area B

TAB

SECTION 7.0

7.0 REFERENCES

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TAB

APPENDIX A

APPENDIX A

AREAS OF CONCERN 17, 18, AND 19 IDENTIFICATION LETTER

HYDRO GeoLogic INC.

February 17, 1998

AFCEE/ERD
Attn. Mr. Joseph Dunkle
3207 North Road
Brooks Air Force Base, Texas 78235-5363

Re: Contract No. F41624-95-D-8005-0005
Identification of Possible SWMUs at NAS Fort Worth JRB

Dear Mr. Dunkle:

The purpose of this letter is to notify you of the possibility of three additional sites at Naval Air Station Fort Worth Joint Reserve Base (NAS Fort Worth JRB) - two fire training areas and a landfill. We identified these possible sites during our review of aerial photographs for our ongoing Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) activities at the base. Our findings are summarized below with the supporting visual evidence provided in Figures 1 through 9. A base map is provided as Figure 10 showing the location of these sites based on the current configuration of the Base

Suspected Fire Training Area A

On April 10, 1952 (Figure 1), just north of Phillips Circle and south of Hobby Shop Road, is a single plane located on what appears to be open ground. The area directly beneath the plane is dark in color while the perimeter of the area appears white. This discoloration could be the result of charring from fire training exercises.

The time period at which this area may have been used as a fire training area is unknown. A review of aerial photographs, however, before and after 1952 indicates this site existed as early as December 31, 1950 (Figure 2) and no later than January 4, 1953 (Figure 3). No planes were visible in this area as early as September 1946. Figure 2 shows two airplanes located at the site in question. The second plane is located just west of the plane identified in Figure 1. The area beneath each of these planes shows a slight discoloration (darkening) indicating the possibility of fire training exercises. The area outside the adjacent perimeter of the suspected fire training area appears white in color. Figure 3 no longer shows any visible evidence of using this site as a fire training area, and the planes are no longer located at this site. In addition, the land appears to have been re-engineered, potentially for future construction activities. Figure 4 indicates that by February 1954, a parking area had been constructed over the site.

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1155 Herndon Parkway • Suite 900 • Herndon, Virginia 20170 • USA
(703) 478-5186 • Fax (703) 471-4180 • http://www.access.digex.net/~hgl

Suspected Fire Training Area B

A single plane located in a cleared triangular shaped area south of taxiway Charlie and east of taxiway 35R was identified from a December 3, 1958 (Figure 5) aerial photograph of the base. The plane is parked on what appears to be open ground. The two planes located immediately southwest of this plane are parked in the area of SWMU 18 (Fire Training Area 1). Because the single plane is located at a distance from taxiway Charlie, we suspect that this area may have served as a fire training area similar to the adjacent site located immediately southwest.

Although the time period at which this area may have been used as a possible fire training area is unknown, it did not exist on February 3, 1954 (Figure 6) and is no longer visible after August 22, 1962 (Figure 7). Aerial photographs later than 1954 and earlier than 1962 were not available for this review to further quantify the time period at which a plane(s) may have been located at this site.

Suspected Landfill A

On April 10, 1942, just west of the most western section of the West Fork Trinity River (prior to rerouting the river), are 8-10 trench like areas (Figure 8). These trenches are located approximately 290 feet from the roadway that runs in a north-south direction along the eastern part of the base boundary. Each "trench" is estimated to occupy an area approximately 65 feet long by 35 feet wide. The trenches are oriented in an northeast-southwest direction. Combined, the trenches occupy an area of about 30,000 ft^2, or 0.69 acres. Trenches like these were often used by the military for the burial of facility refuse ranging from construction debris to industrial waste. Other base landfills were located along the river, east of this site, during the late 1940s, 1950s, 1970s, and 1980s (e.g., SWMU Nos. 28 and 30).

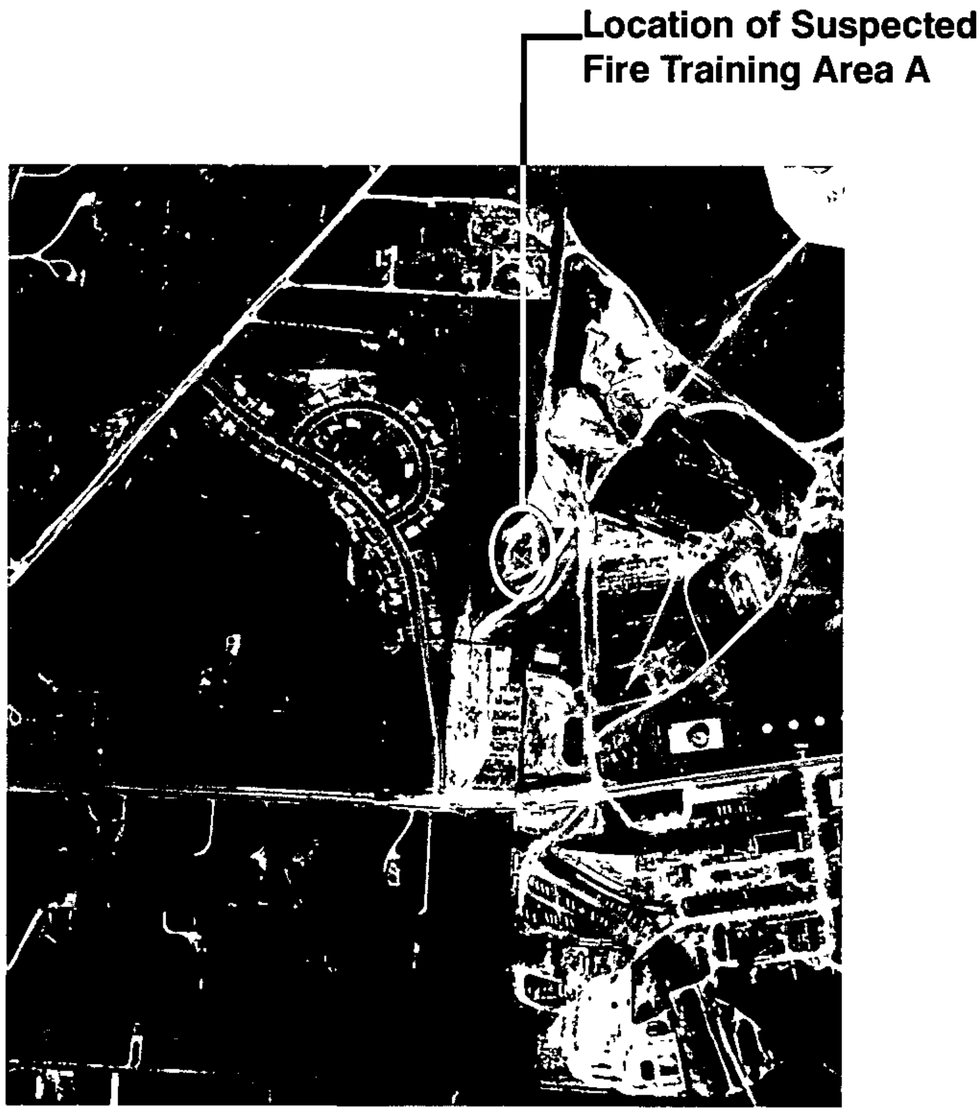
On April 4, 1944, (Figure 9) there is no longer any visual evidence of the trenches at this location. The area appears to have been leveled and covered with grass. In 1997, it appears that a building is being constructed over the suspected site.

Please contact me at 703-736-4507, if there is anything else we can do for you regarding these possible sites.

Sincerely,

James P. Costello, P.G.
Project Manager

Attachments (Figures 1-10)



Drawn/Scanned by. C. Farmer	Date. 12/31/97
Checked by: M. Rodtang	Date: 01/08/98
Filename· AFCEE\Fire_Traınıng_Area\ FTA_fıg1 cdr	

HYDRO GeoLogic INC

Figure 1
Aerial Photograph
April 10, 1952

Z

Approxımate Scale
1·8,500

Drawn/Scanned by: C. Farmer	Date: 12/31/97
Checked by· M. Rodtang	Date. 01/08/98
Fılename. AFCEE\Fıre_Traınıng_Area\ FTA_fıg2.cdr	

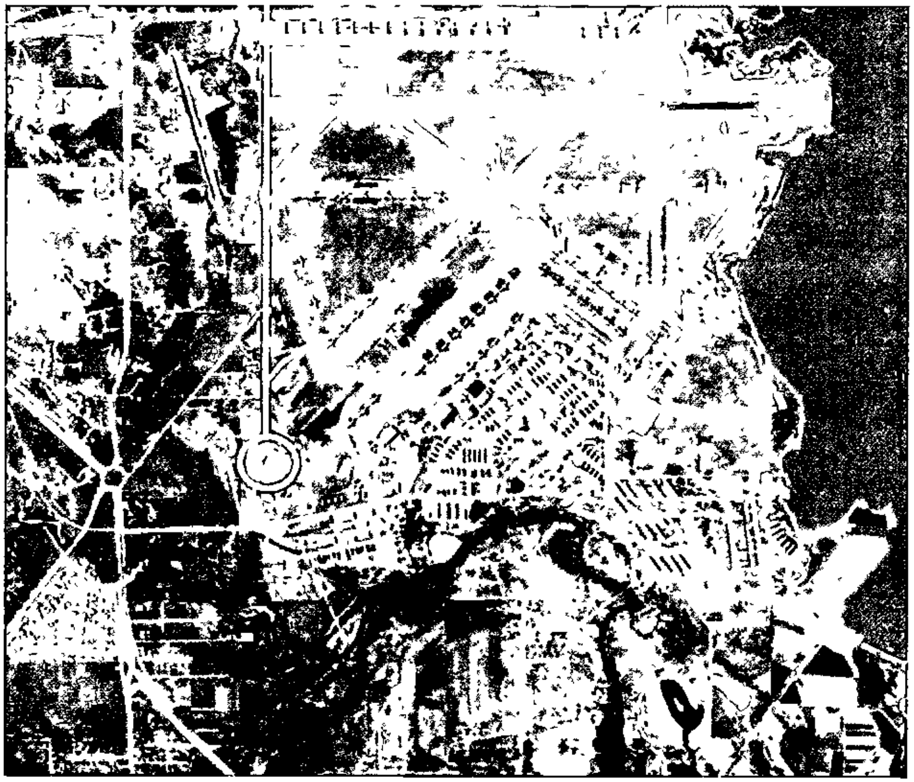
HYDRO GeoLogic INC

Figure 2
Aerial Photograph
December 31, 1950

Z

Approxımate Scale
1.10,000

Former Location of Suspected
Fire Training Area A



Drawn/Scanned by: C Farmer	Date· 12/31/97
Checked by· M Rodtang	Date 01/08/98
Filename· AFCEE\Fire_Training_Area\ FTA_fig3 cdr	

HYDRO GeoLogic INC

Figure 3
Aerial Photograph
January 4, 1953

N

Approximate Scale
~1:17,000

Former Location of Suspected
Fire Training Area A

Drawn/Scanned by. C. Farmer	Date: 12/31/97
Checked by· M. Rodtang	Date. 01/08/98
Filename: AFCEE\Fire_Training_Area\ FTA_fig4.cdr	

HYDRO GeoLogic INC

Figure 4
Aerial Photograph
February 3, 1954

N

Approximate Scale
1 12,000

Location of Suspected
Fire Training Area B

Drawn/Scanned by. C Farmer	Date· 12/31/97
Checked by· M Rodtang	Date. 01/08/98
Filename. AFCEE\Fire_Training_Area\ FTA_fig5 cdr	

HYDRO GeoLogic INC

Figure 5
Aerial Photograph
December 3, 1958

Z

Approximate Scale
1.8,600

Future Location of Suspected
Fire Training Area B

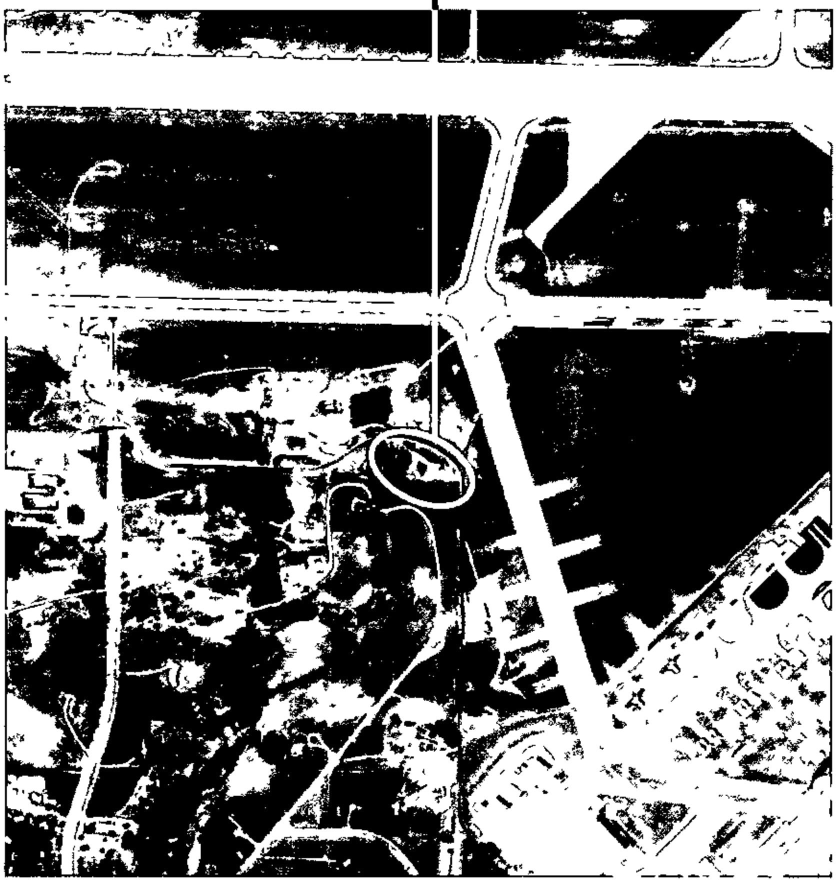
Drawn/Scanned by: C Farmer	Date: 12/31/97
Checked by: M Rodtang	Date: 01/08/98
Filename: AFCEE\Fire_Training_Area\ FTA_fig6.cdr	

HYDRO GeoLogic INC

Figure 6
Aerial Photograph
February 3, 1954

N

Approximate Scale
1 12,000



Drawn/Scanned by C. Farmer	Date 12/31/97
Checked by M. Rodtang	Date 01/08/98
Filename. AFCEE\Fire_Training_Area\ FTA_fig7 cdr	

HYDRO GeoLogic INC

Figure 7
Aerial Photograph
August 22, 1962

N

Approximate Scale
1.12,300

Drawn/Scanned by. C Farmer	Date 12/31/97
Checked by: M. Rodtang	Date. 01/08/98
Filename. AFCEE\Fire_Training_Area\ FTA_fig8.cdr	

HYDRO GeoLogic INC

Figure 8
Aerial Photograph
April 10, 1942

Z

Approximate Scale
1:10,000

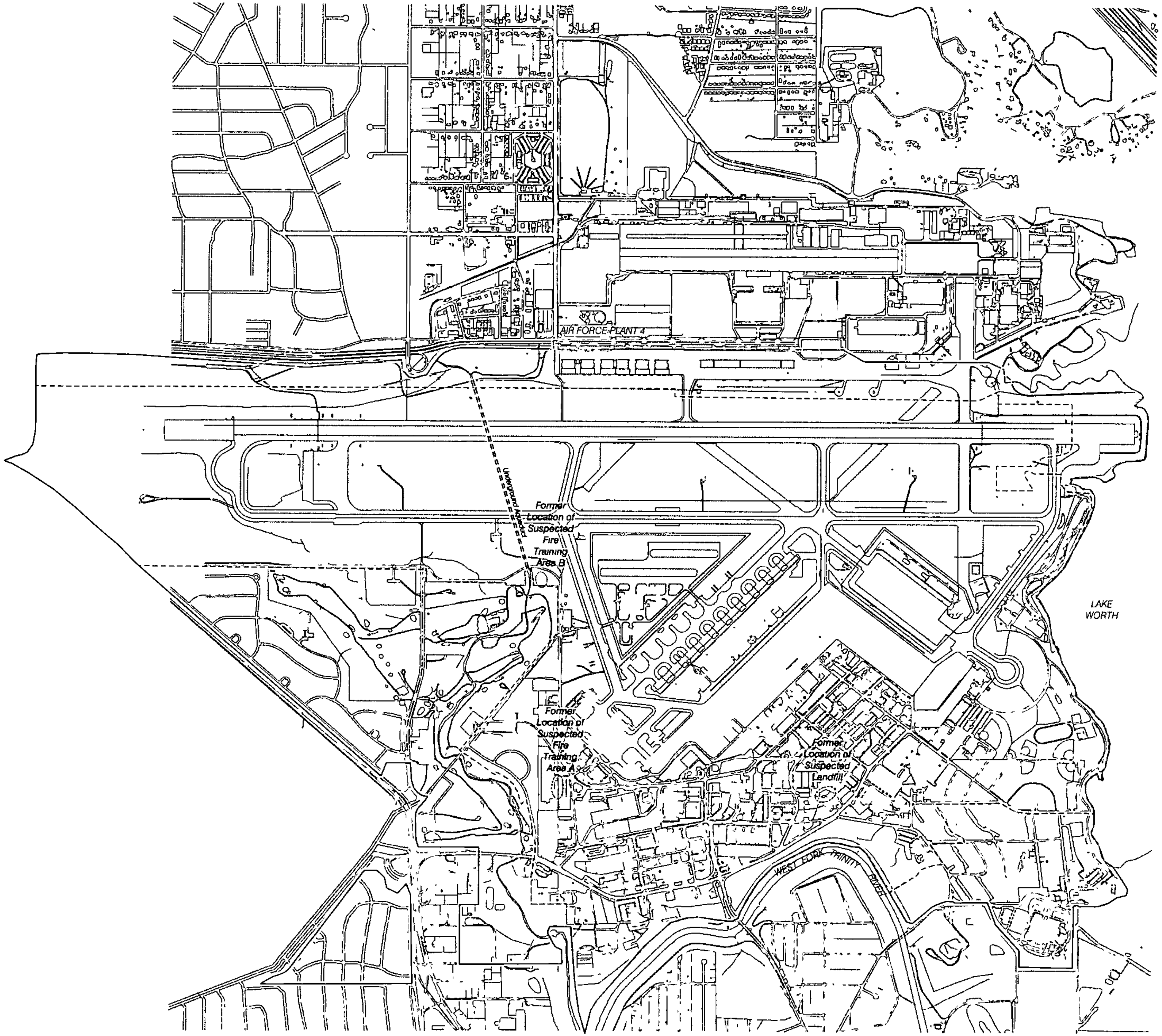
Drawn/Scanned by C Farmer	Date: 12/31/97
Checked by. M. Rodtang	Date: 01/08/98
Filename: AFCEE\Fire_Training_Area\ FTA_fig9.cdr	

HydroGeoLogic Inc

Figure 9
Aerial Photograph
April 4, 1944

N

Approximate Scale
1:10,000



HydroGeoLogic, Inc.
Former Carswell Air Force Base

Figure 10

NAS Fort Worth, JRB Base Location Map

LEGEND

- - - - NAS Fort Worth JRB
—— Former Carswell Air Force Base
—·— Surface Water

HYDRO GeoLogic INC.

Filename: AFCEE\NAS Ft Worth\BaseLctn dwg
Revised 02/12/98
Project: AFC001-DO5
Map Source Jacobs, 1996

TAB

APPENDIX B

APPENDIX B

DATA QUALITY ASSESSMENT

DATA QUALITY ASSESSMENT
SITE INVESTIGATION REPORT
AREA OF CONCERN 19
NAS FORT WORTH JRB, TEXAS

1.0 FIELD QUALITY ASSURANCE/QUALITY CONTROL

Field quality control samples were collected as described in the following sections.

1.1 AMBIENT BLANK

Ambient blanks consist of American Society for Testing and Materials (ASTM) Type II reagent grade water poured into a VOC sample vial at a sampling site (in the same vicinity as the associated samples). Ambient blanks are used to assess the potential introduction of contaminants from ambient sources (e.g., active runways, engine test cells, gasoline motors in operation) to the samples during sample collection. Ambient blanks are handled like environmental samples and transported to the laboratory for analysis. Depending on the analytes of interest at the associated site(s), ambient blanks are analyzed for VOCs, benzene, toluene, ethylbenzene, and xylenes (BTEX), or methane. No ambient blanks were collected in association AOC 19 samples.

1.2 EQUIPMENT BLANK

An equipment blank is a sample of ASTM Type II reagent grade water poured over the sampling device, collected in a sample container, and transported to the laboratory for analysis. Equipment blanks are used to assess the effectiveness of equipment decontamination procedures. Equipment blanks are collected immediately after equipment has been decontaminated. Each blank is analyzed for all laboratory analyses requested for the environmental samples collected at the site. One equipment blank was collected per day for each type of sampling equipment used. Twelve equipment blanks were collected in association with AOC 19 samples; eight associated with soil samples and four associated with groundwater samples.

1.3 TRIP BLANK

A trip blank consists of a VOC sample vial filled at the laboratory with ASTM Type II reagent grade water, transported to the sampling site, handled like an environmental sample, and returned to the laboratory for analysis. Trip blanks are not opened in the field. Trip blanks are prepared only when samples are collected and analyzed for VOC analytes. Trip blanks are used to assess the potential introduction of contaminants from sample containers or during the transportation and storage procedures. One trip blank accompanied each cooler of samples sent to the laboratory for analysis of VOCs. Twelve trip blanks were collected in association with AOC 19 samples; eight associated with soil samples and four associated with groundwater samples.

1.4 FIELD DUPLICATES

Duplicate sample results are used to assess precision of the sample collection process. Precision of soil samples to be analyzed for VOCs is assessed from collocated samples because the compositing process required to obtain uniform samples could result in loss of the compounds of interest.

Duplicate samples are collected simultaneously, or in immediate succession, using identical recovery techniques, and treated in an identical manner during storage, transportation, and analysis. The sample containers are assigned an identification number in the field so that they cannot be identified (blind duplicate) as duplicate samples by laboratory personnel performing the analysis. Specific locations were designated for collection of field duplicate samples prior to the beginning of sample collection. One duplicate sample was collected for every 10 field samples collected. Six field duplicates were collected during AOC 19 SI activities; three for soil samples and three for groundwater.

1.5 SAMPLE TRACKING PROTOCOL

Each sample was assigned a unique identification number that describes where and what type of sample was collected. The number that was used in the field consisted of a maximum 15 digit alphanumeric code. The alphanumeric code was truncated to 10 digits once the data was ready to be entered into the Environmental Resources Program Information Management System (ERPIMS) database. This system is explained in detail as follows:

abbbccccdd-ee

where:

a represents the medium (e.g., W=monitoring well, P = wipe sample, R = rinse sample, B = soil boring, U = surface water sample, or E = sediment sample).

bbb represents HydroGeoLogic, Inc. designation (e.g., HGL)

cccccc represents the AOC number (e.g., AOC 19.)

dd represents the location identification (LOCID) (e.g., 01, 02)

ee represents the order that the sample was obtained within the soil boring; i.e., a surface soil sample would be 01, a 5- to 7-foot sample would be 02, etc. These two digits will dropped once the data are entered into the ERPIMS database.

For example, the surface soil sample collected from the first boring advanced at AOC 19 was identified as "BHGLAOC1901-01." The sample collected from the 5 foot interval of the first soil boring advanced at AOC 19 was identified as "BHGLAOC1901-02".

Duplicate samples were submitted to the laboratory blind. In order to ensure that field duplicates were analyzed "blind" by the laboratory, each field duplicate sample was assigned a unique sample identification number that did not associate the duplicate with its parent sample. Duplicate sample numbering format is "DUPxx", where xx is a sequential number. The locations from which field duplicate samples were to be collected were determined prior to mobilization. Documentation was maintained in the field sampling logbook, and on the sample collection log, to track these field duplicate samples.

QC samples were identified by use of a similar system of identifiers with a maximum of 10 characters. The QC sampling number system is summarized below:

xxyyyyyy

where:

xx represents the blank type (EB for equipment blank, TB for trip blank, AB for ambient blank)

yyyyyy represents the date (month, day, year)

For example, an equipment blank obtained on May 1, 2000, would be identified as EB050100. When multiple field blanks of a particular type were collected on the same day, alphabetical suffixes (A, B, C, and so forth) were attached to the identification numbers.

The Project Geologist/Field Coordinator maintained a list detailing the connection between each QC sample and specific environmental samples. For instance, each trip blank was correlated with a particular set of samples shipped to the laboratory, and each equipment blank was correlated to those samples collected using a particular set of sampling tools on a specific date.

After the laboratory data were received and validated, data entry and QC operations were performed on the laboratory's electronic data deliverables (EDDs) to ensure that each EDD was complete, correct, and compatible with the ERPIMS format. An EDD report in the ERPIMS format will be provided to AFCEE.

2.0 LABORATORY ANALYSIS

Samples collected from AOC 19 were analyzed for a reduced list of 40 CFR 264 Appendix IX constituents, comprising VOCs, SVOCs, and metals/mercury as in accordance with the 2000 Basewide QAPP (HydroGeoLogic, 2000c). Specific sampling parameters for each site are listed in Section 3.0 of the SI Report.

2.1 ANALYTICAL PROGRAM

The data generated by this project is of sufficient quality and quantity to meet the overall project objective, which is closure of AOC 19 under the TNRCC RRS program. Data from the following categories were required for this study:

Site Characterization - Data were used to evaluate physical and chemical properties of soil. The data were also used to characterize the nature and extent of any contaminants detected.

Health and Safety - Data were used to establish the level of protection needed for the sampling team and other site-related personnel. These data were gathered by the use of organic vapor monitors during intrusive activities.

A combination of screening level data and definitive level data was used during this SI. Health and safety data were collected as screening data. All soil and water samples were analyzed following USEPA SW846 protocols. The definitions of screening data and definitive data, as established by the Data Quality Objectives Process for Superfund Interim Final Guidance (USEPA/540/G-93/071, 1993) are described below:

- Screening Data with Definitive Confirmation - Screening data can be generated by rapid, less precise methods of analysis with less rigorous sample preparation. Sample preparation steps may be restricted to simple procedures such as dilution with a solvent, instead of elaborate extraction/digestion and cleanup. Screening data provides analyte identification and quantification. Although the quantification may be determined using analytical methods with QA/QC procedures and criteria associated with definitive data, screening data without associated confirmation data are not considered to be data of known quality.

- Definitive Data - Definitive data were generated using rigorous analytical methods, such as approved USEPA reference methods. Data are analyte-specific, with confirmation of analyte identity and concentration. These methods produce tangible raw data (e.g., chromatograms, spectra, digital values) in the form of paper printouts or computer-generated electronic files. Data may be generated at the site or at an off-site location, as long as the QA/QC requirements are satisfied. For the data to be definitive, either analytical or total measurement error must be determined.

The data generated by the laboratory analysis of samples were sufficiently sensitive to allow comparison of the results to the TNRCC RRS. The 2000 Basewide QAPP (HydroGeoLogic, 2000c) describes each method that was performed as part of the investigation and outlines the quality assurance measures the contract laboratory must follow. The methods of analysis selected for samples collected from NAS Fort Worth JRB produced screening as well as definitive data.

2.2 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

The primary project QA/QC document is the 2000 Basewide QAPP (HydroGeoLogic, 2000c). This document was originally released in 1998 and was based on versions 1.1 and 2.0 of AFCEE's Model QAPP, with some base-specific modifications and updates. The 2000 version of the QAPP incorporates elements of the AFCEE Modal QAPP, version 3.0, and updates to SW-846 methods. This document is supplemented by the laboratory's Quality Assurance Plan. Together, these two documents detail the requirements that must be followed in order to generate data of the level of quality required to support the project decision-making process. Among the requirements contained in these documents is the requirement for review of the data at several levels at the laboratory. Each benchtop chemist is responsible for a 100 percent review of all data generated, as is each laboratory section manager (or designee). Subsequent to analyst review, 10 percent of data are reviewed by the laboratory QA department prior to assembly of each data report. Each final data report is reviewed by the laboratory project manager prior to release from the laboratory.

2.2.1 Laboratory QA/QC Program

The laboratory QA/QC program was maintained in overall accordance with the 2000 Basewide QAPP. Where the laboratory performance was not in accordance with the QAPP criteria, the affected data were qualified in the data validation process. The Data Validation Reports are presented in Appendix G. In order to provide data meeting the requirements for definitive data, the following QC elements were used by the laboratory to provide QC data applicable to the analytical results: laboratory control samples (LCSs), matrix spike/matrix spike duplicate (MS/MSD) samples, surrogate recoveries, internal standard performance, method blanks and calibration, instrument tuning and calibration, second source calibration checks, confirmation columns/detectors, interference check samples, recovery tests, laboratory duplicates, and serial dilutions. A description of each laboratory QC element can be found in Section 4.0 of the 2000 Basewide QAPP (HydroGeoLogic, 2000c). The frequency and acceptance criteria for each laboratory QC element are described in general in Sections 4.0 and 8.0 of the 2000 Basewide QAPP, and in the method-specific subsections of Section 7.0 of the 2000 Basewide QAPP (HydroGeoLogic, 2000c).

2.2.2 QA/QC Program Performance

Evaluation of the QC and analytical data provided by the laboratory showed that there was general compliance with the QA/QC program. There were cases where individual analytes or QC elements did not meet program criteria. If these QC failures were serious enough, the laboratory performed re-analysis after attempting corrective action. Where re-analysis was not performed or corrective action was not successful, the data were qualified in accordance with the method-specific requirements of Section 7.0 and the general requirements of Section 8.0 of the 2000 Basewide QAPP (HydroGeoLogic, 2000c).

A total of 4076 data points were generated by the analyses of AOC 19 soil samples. This number includes the results from 33 field samples and 3 field duplicates. Of the data points reported, 94 were rejected due to failure to achieve QA/QC program requirements. Total AOC 19 soil data completeness is calculated to be 97.69 percent, which exceeds the soil data completeness goal of 90 percent. The soil data set obtained for AOC 19 in May 2000, February 2001, August 2001, and December 2001 is judged to be sufficiently complete, from a QC standpoint, to be used in any subsequent decision-making process.

A total of 18 data points were generated by the analyses of AOC 19 groundwater samples. This number includes the results from 15 field samples and 3 field duplicates. Of the data points reported, none were rejected due to failure to achieve QA/QC program requirements. Total AOC 19 groundwater data completeness is calculated to be 100 percent, which exceeds the groundwater data completeness goal of 95 percent. The groundwater data set obtained for AOC 19 in February 2001, April 2001, and June 2001 is judged to be sufficiently complete, from a QC standpoint, to be used in any subsequent decision-making process.

2.2.3 QA Activities

On March 25 and 26, 1998, the HydroGeoLogic project chemist, assisted by a Law Engineering project chemist, performed a QA audit of the facilities and practices of the analytical laboratory, at Recra Labnet[1] in University Park, Illinois. The auditors reviewed the laboratory's Quality Assurance Plan, evaluated the laboratory's recent state certification performance evaluation sample results, reviewed the laboratory's standard operating procedures, and conducted an on-site inspection of the laboratory's facility. The laboratory was found to have sufficient expertise, resources, and procedures to generate definitive and legally defensible data.

3.0 DATA QUALITY EVALUATION

This section describes the analytical methods and quality control program utilized for the SI of AOC 19 at NAS Fort Worth JRB. The analytical methods used for the analysis of the field samples are described in the 2000 Basewide QAPP (HydroGeoLogic, 2000c).

3.1 DATA QUALITY EVALUATION OBJECTIVE

The objective of the Data Quality Evaluation (DQE) is to provide a professional review of the analytical data packages submitted by the laboratory. The DQE consists of a review of laboratory QC data and field QC data. This review is performed to indicate which data are usable, usable with qualification, or unusable. The analytical procedures used to generate field sample data are evaluated in accordance with the general and method-specific QC criteria listed in Sections 5.0, 6.0, 7.0, and 8.0 of the 2000 Basewide QAPP (HydroGeoLogic, 2000c).

[1] RCRA Labnet was acquired by Severn Trent Laboratories in January 1999.

The following items of laboratory QC data are reviewed:

- Sample integrity
- Sample completeness
- Preparation and analysis holding times
- Laboratory preparation and analysis methods
- Method accuracy and precision (e.g., MS/MSDs, dilution tests)
- Laboratory performance criteria (e.g., blanks, LCS recoveries, surrogates, internal standards)
- Instrument initial and continuing calibration checks

Field QC performance is evaluated through evaluating field duplicates, field blanks, field documentation, and shipping criteria.

3.2 METHODOLOGY FOR DATA QUALITY ASSESSMENT

Environmental Data Services, Inc. and HydroGeoLogic validated the results for AOC 19 samples. The data were evaluated in accordance with the procedures and acceptance criteria contained in the 2000 Basewide QAPP. All results from all analytical methods were evaluated with respect to the requirements of definitive data at the equivalent of a USEPA level III review. The data review identified those data that were unusable due to serious QC deficiencies, as well as other data that were affected by QC problems but not of sufficient severity to warrant rejection. Rejected data were qualified 'R', while qualifiers of lesser severity were applied to usable data where necessary. The level III validation reports for each sample delivery group (SDG) are included in Appendix G.

Subsequent to the data validation process, the required data validation qualifiers were entered into the project database. The accuracy the validation and data entry process was checked at all stages. The "as received" accuracy of each EDD for each data package was verified by comparing the contents of each EDD to the hardcopy of that data package at a 10 percent rate. The accuracy of the validation qualifiers was also checked on the final database output at a rate of 10 percent.

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TAB

APPENDIX C

APPENDIX C

GEOPHYSICAL SURVEY REPORT

DRAFT

SURFACE GEOPHYSICAL SURVEY REPORT

AOC 19 Site and SWMUs 19 & 20 Site

NAS Ft. Worth JRB (Formerly Carswell AFB)
Fort Worth, Texas

Prepared For:
HydroGeoLogic Inc.
1155 Herndon Parkway, Suite 900
Herndon, Virginia, 20170

Prepared By:
IT Corporation
312 Directors Drive
Knoxville, Tennessee, 37923

AFCEE Contract No. 41624-95-D-8005
Delivery Order 0026 & 0029
IT Project No. 800870

March 2001

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724 156

List of Acronyms

AFB	Air Force Base
AFCEE	Air Force Center for Environmental Excellence
BGS	below ground surface
CD	Compact Disk
E-W	east-to-west
EM	electromagnetic induction
EM31	Geonics Limited EM31 Terrain Conductivity Meter
EM61	Geonics Limited EM61 High-Resolution Metal Detector
G-856AX	Geometrics, Inc G-856 Magnetometer
G-858G	Geometrics, Inc. G-858G Magnetic Gradiometer
IT	IT Corporation
JRB	joint reserve base
mS/m	milliSiemens per meter
mV	milliVolts
ppt	parts per thousand
N-S	north-to-south
NAS	Naval Air Station
nT	nanoTeslas
SWMU	solid waste management unit
UST	underground storage tank
UXO	unexploded ordnance

1.0 Introduction

IT Corporation (IT) performed surface geophysical surveys at the AOC 19 and Solid Waste Management Unit (SWMU) 19 & 20 sites at Naval Air Station (NAS) Ft. Worth Joint Reserve Base (JRB) (Formerly Carswell Air Force Base (AFB)) from February 12 through 16, 2001. The surveys were conducted for HydroGeoLogic under the Air Force Center for Environmental Excellence (AFCEE) Contract No. 41624-95-D-8005, Delivery Orders 0026 and 0029.

The objective of the survey at the AOC 19 site was to locate buried metal objects potentially representing drums. The objectives of the survey at the SWMUs 19 & 20 site were to locate buried metal objects potentially representing drums and a 10,000-gallon underground storage tank (UST). The total area investigated was approximately 189,950 square feet (approximately 4.36 acres).

To accomplish the objectives of the surveys, the geophysical surveys were designed using magnetic, time-domain electromagnetic (EM), and frequency-domain EM techniques The site maps with geophysical interpretation (Figures A-1 and B-1) show the survey areas relative to permanent site features and the locations of significant anomalies that were identified in the data.

The AOC 19 site encompasses an irregular-shaped area with topography that slopes up to the north and west. The AOC 19 survey area was bounded on the south and east by a chain link fence and on the west and north by a road, as shown on the site map with geophysical interpretation (Figure A-1). The SWMUs 19 & 20 site is grass covered and has a gently sloped mound, which covers most of the site.

Field procedures used to conduct the survey are described in Section 2.0. Data processing methods used for the survey are presented in Section 3.0. The geophysical survey results are presented in Section 4.0. Conclusions derived from the geophysical survey are presented in Section 5.0.

- Appendices A and B: Site Maps showing the Geophysical Interpretation and data contour maps for the sites investigated.
- Appendix C: Magnetic Base Station Plots
- Appendix D. Theoretical Background of the geophysical techniques used in this investigation.

2.0 Field Procedures

This section describes the field procedures and instruments used to conduct the geophysical surveys.

2.1 Survey Control

Initially, the geophysics crew established base grids on 100-foot centers throughout the sites. Using the base grid as a reference, the crew marked control points on 10-foot centers with surveyors' paint to provide the required resolution for the investigation. Due to the uncertainty of true field positions inherent when establishing a survey area using 300-foot fiberglass tapes in the presence of wind and surface obstructions (e.g. utility poles, monitoring wells), the lateral precision for the survey areas and anomalies is believed to be within +/- 2 feet

Detailed, hand-sketched site maps were drawn in the field. The maps included any surface cultural features within the survey areas, or near their perimeters that could potentially affect the geophysical data (e.g., overhead utilities, manhole covers, monitoring wells). The maps also show reference features, such as roads and fences that could later aid in reconstructing the site boundaries. All reference information documented on the hand-sketched site maps was translated to the site interpretation maps.

2.2 Geophysical Survey Design and Instrumentation

Survey Equipment. Magnetic instruments used during the investigation consisted of a Geometrics G-858G magnetic gradiometer (G-858G) for survey data acquisition, and Geometrics G-856AX magnetometer (G-856AX) for collecting base station data. Time-domain EM equipment used to conduct the investigation consisted of a Geonics EM61 high sensitivity metal detector (EM61) coupled to an Omnidata DL720 digital data logger. Frequency-domain EM equipment used to conduct the investigation consisted of a Geonics EM31 terrain conductivity meter (EM31) coupled to an Omnidata DL720 digital data logger. Where required, a Metrotech 9860-BRL EM utility locator was used to verify that linear anomalies seen in the EM31/EM61 data were caused by subsurface pipelines.

All geophysical data were collected in accordance with the methods and procedures outlined in the following IT Standard Operating Procedures:

- ITGP-001: Surface Magnetic Surveys
- ITGP-002: Surface Frequency-Domain Electromagnetic Surveys
- ITGP-004: Surface Time-Domain Electromagnetic Surveys
- ITGP-012: Geophysical Data Management.

Field Instrument Base Station. A field instrument base station was established at each site to provide quality assurance/quality control of the geophysical data. Prior to collecting the base station data, the instruments were used to determine that the location was clear of surface and subsurface cultural interference (e.g , fences, utilities, and surface/buried metal objects). Standard field procedures were used to take readings at the base station with each instrument (G-858G, EM61, and EM31) before and after each data collection session. These opening and closing base station files were reviewed as the survey progressed to assure proper instrument operation during each survey period. Average readings for each base station file were recorded on the base station summary form and are contained in project files.

Magnetic Base Station. A magnetic base station was used to record the diurnal variation in the Earth's magnetic field during the G-858G magnetic gradiometer survey. The magnetic base station was established at a location determined to be clear of surface and subsurface cultural interference (e.g., fences, utilities, and surface/buried metal objects) The G-856AX base station magnetometer was time-synchronized with the G-858G field survey instrument and programmed to record the Earth's background magnetic field at 10-second intervals during magnetic survey. These base station data were later used during data processing to "drift-correct" the G-858G survey data for variations in the Earth's magnetic field. Plots of the base station data are presented in Appendix C.

G-858G Data Collection. Prior to and immediately following each survey session, 60 readings of total magnetic field data were recorded with the G-858G at the field instrument base station. Evaluation of the base station data indicates the instrument was operating properly during the survey and that instrument drift was within acceptable limits. The spacing between the two G-858G sensors was 2 5 feet (0.76 meters) during the investigation, with the lower sensor at approximately 2.0 feet and the upper sensor at approximately 4.5 feet above the ground surface. Magnetic survey data were collected at 0.5-second (approximately 2 0- to 2.5-foot) intervals along north to south (N-S) oriented survey lines, spaced 5 feet apart. for a total of approximately 39,210 linear feet of survey coverage Magnetic data were stored in the internal memory of the G-858G, along with corresponding line and station numbers and the time of acquisition. Field and magnetic base station data were downloaded to a personal computer, backed up on Iomega® compatible zip disks, copied to compact disc (CD), and are retained in project files.

EM61 Survey. Prior to and immediately following each survey session, 20 readings of the potential difference were recorded from the top and bottom coils of the EM61 at the field instrument base station. Evaluation of the base station data indicates the instrument was operating properly during the survey and that instrument drift was within acceptable limits. EM61 data were collected in the wheel mode at 2 5-foot station intervals along N-S and east to west (E-W) oriented survey lines, spaced 5 feet apart, for a total of approximately 79,230 linear feet of survey coverage. Data were stored in the digital data logger programmed with corresponding line and station numbers. EM61 data were downloaded to a personal computer, backed up on Iomega® compatible zip disks, copied to CD, and are retained in project files.

EM31 Survey. Prior to each survey session, the EM31 was calibrated, the in-phase component was zeroed, and 20 readings of conductivity and in-phase component data were collected at the field instrument base station Following each survey session, EM31 closing base station data were collected to verify that the EM31 was operating properly and to provide a quantitative record of instrument variation, or drift, during the survey period. Evaluation of the EM31 base station data indicates the instrument was operating properly during the survey period. The EM31 survey was conducted in the vertical dipole mode and data were collected at 5-foot intervals along N-S and E-W oriented survey lines, spaced 10 feet apart, for a total of approximately 39,090 linear feet of survey coverage. Data were stored in the digital data logger programmed with corresponding line and station numbers. EM31 data were downloaded to a personal computer, backed up on Iomega® compatible zip disks, copied to CD, and are retained in project files.

2.3 Anomaly Verification

Following the field surveys, preliminary color-contour maps of magnetic, EM61, and EM31 data representing the site were plotted and field-checked to differentiate between anomalies caused by known surface features and those caused by subsurface source materials.

3.0 Data Processing

Contour maps of magnetic, EM61, and EM31 data were generated using the OASIS Montaj® geophysical mapping system from Geosoft, Inc. These maps were color-enhanced to aid with interpreting subtle anomalies. Select contour maps data are presented as Figures A-2 through A-10 and B-2 through B-10.

A series of data processing steps were required to generate the contour maps. G-858G magnetic gradiometer data were downloaded from the field instrument, corrected for diurnal drift, and then converted to an ASCII format file using the Geometrics, Inc. MAGMAP 2000® program. EM61 and EM31 data were downloaded from the data loggers and converted to ASCII format files using DAT61® and DAT31® software from Geonics, Inc. The ASCII data files were then reviewed so that line numbers, station ranges, and overall data quality could be assessed. Field data file names and corresponding base station data files were recorded on the data file tracking form. Data screening results were recorded on the base station summary form Following data quality assessment, geometry corrections to field data files were made, if necessary, using a text editor and recorded on the Geophysical Data Editing Form

Final, corrected magnetic and EM data files containing local geophysical station coordinates (X,Y) and the geophysical measurement (Z) were converted to OASIS Montaj® .XYZ format and imported into the geophysical mapping software. The data were bi-directionally gridded with an Akima spline. The grid cell size was 1.25 feet for the magnetic and EM61 data, and 2.5 feet for the EM31 data. The names of files generated and processing parameters used were recorded on data processing forms. All completed forms of magnetic and EM data collected during the investigation are retained in project files.

Due to the complexity of the some magnetic anomalies, enhanced data processing was conducted on the Pre-Removal survey magnetic field data using the Geosoft UX Detect® interpretation software. The UX Detect® software performs inverse modeling by calculating 3-dimensional gradients of the magnetic data, determining the peak gradient locations, and then performing Euler deconvolution to solve for the apparent depth of the source material of the anomaly. The contour map of 3-dimensional magnetic gradient is most useful in reducing the complex magnetic response seen in total field magnetic data to a likely source area.

Enhanced data processing was performed on the EM61 data to aid with the depth determination of geophysical anomalies and provide for more accurate interpretations of metal concentrations. The UX-Detect® program, as applied to EM61 data, performs modeling by calculating the difference in the data response between the top and bottom coils, determining the peak locations, then applying depth algorithms that use ratio response curves for both receivers to solve for the apparent depth of the source material.

4.0 Geophysical Survey Results

This section describes the methods used to interpret the magnetic and EM data collected at NAS Ft. Worth JRB (Formerly Carswell AFB). The geophysical interpretation maps (Figures A-1 and B-1) are based on the combined results of the instruments used to conduct the surveys. Interpreted contour maps of the geophysical data are presented in Appendices A and B. The theoretical background section (Appendix D) describes the factors influencing the observed geophysical response for the various methods used

4.1 Interpretation Method

Anomalies shown on the magnetic and EM contour maps range from high to low values and from negative to positive, depending on the type of data displayed. The observed anomalies in the contour map of total magnetic field for the upper sensor have values above and below the average magnetic field intensity of 50,600 nanoTeslas (nT) for north central Texas during the survey periods The typical magnetic data response to near-surface ferrous metallic debris is an asymmetric south high/north low signature. The shape and amplitude of an induced magnetic anomaly over a ferromagnetic object depend on the geometry, size, depth, orientation, and magnetic susceptibility of the object. The upper sensor is generally more useful for interpreting larger source objects such as landfill areas, underground storage tanks, and drums. The lower sensor is generally more useful for interpreting small, near-surface source objects, such as scrap metal and unexploded ordnance (UXO). Used together, both are diagnostic for estimating the size and depth characteristics of ferrous source materials. Typically, an increase in total magnetic field, particularly in the upper sensor, indicates an increase in the volume of ferromagnetic materials in the study area. However, this increase in field intensity can also be caused by source materials located closer to the surface. To better understand G-858G upper sensor magnetic field variations, other data such as the G-858G lower sensor, EM61 and EM31 data were also analyzed Although contour maps of the G-858G lower sensor and vertical magnetic gradient were interpreted, only the map of upper sensor data are presented since it is the most useful for locating drum-sized objects.

The characteristic EM61 response over a buried metal object shows a positive-amplitude signal, with the amplitude being dependent on the size of the object, distance from the transmitter/receiver coils, and the type of metal. Upper and lower receiver coil readings are processed to determine a differential value that can be used to estimate the depth of source objects. Although all EM61 data were evaluated during interpretation, only the bottom coil EM61 data are presented, since the bottom coil is most sensitive to buried metal objects.

The characteristic EM31 anomaly over a near-surface metallic conductor consists of a narrow zone having strong negative amplitude centered over the target and a broader lobe of weaker, positive amplitude on either side of the target. As the depth of the target feature increases, the characteristic EM31 response often changes to a positive amplitude centered over the target For this type of investigation, EM31 data are generally more useful for interpreting small pits containing more than one drum.

4.2 Data Interpretation

This section discusses the general characteristics of the geophysical data and describes the geophysical characteristics specific to each anomaly identified on the magnetic and EM contour maps.

The site maps with geophysical interpretation (Figures A-1 and B-1) contain detailed information about known surface features. The information contained on the site maps was translated from the hand-sketched site maps generated in the field The anomalies shown on the site interpretation maps correspond to those shown on the data contour maps.

The magnetic and EM data contour maps show several low- to high-amplitude anomalies throughout the sites. Some of these anomalies are caused by known surface features (i.e., fences and manhole covers) and subsurface pipelines/utilities and are indicated as such on the data contour maps.

The anomalies observed in the contour map G-858G total magnetic field data and the analytic signal best depict the relative concentrations of metal at the site. The EM61 potential difference data most accurately show the boundaries and relative depth of the near-surface metallic source objects. The EM31 conductivity and in-phase component data are useful in distinguishing pipeline trends and determining whether anomalies seen in EM61 data represent continuous or nearly continuous source objects (i.e., small pit containing more than one drum-sized object) or simply a large number of point sources.

4.2.1 AOC 19 Anomalies

The geophysical anomalies identified in the data are indicated on the data maps and interpretation map as Anomalies A-1 through A-15. These anomalies are interpreted to be caused by buried metal objects large enough to represent individual drums or pits containing more than one drum. Ten of the anomalies are contained within the AOC 19 site boundaries, while the remaining five are perimeter anomalies, which trend offsite The site map with geophysical interpretation (Figure A-1) shows the boundaries and relative concentrations of buried metal at the site.

Anomaly A-1. Anomaly A-1 consists of two individual anomalies that occur at (365N, 177E) and (341N, 157E). Anomaly A-1 occurs as multiple magnetic anomalies with responses, which vary from 350 to 1,500 nT (Figure A-2). Anomaly A-1 is interpreted as moderate concentrations of buried metal at depth.

Anomaly A-2. Anomaly A-2 is a perimeter anomaly located at approximately (365N, 123E). Anomaly A-2 occurs as a low-amplitude anomaly in the magnetic data with a response of approximately 193 nT (Figure A-2). Anomaly A-2 has a moderate-amplitude response in the EM61 data of approximately 237 milliVolts (mV) (Figures A-4 and A-5). EM61 UX-detect depth modeling indicates that the source objects are approximately 1 to 2 feet below ground surface (bgs) (Figure A-6). Anomaly A-2 extends beyond the western boundary of the survey area, therefore the lateral extents of the anomaly cannot be determined. Anomaly A-2 is interpreted as a low concentration of buried metal.

Anomaly A-3. Anomaly A-3 is located at approximately (337N, 226E). Anomaly A-3 occurs primarily as a high-amplitude magnetic anomaly with a response of approximately 1,300 nT (Figure A-2). Anomaly A-3 also has a subtle response in the N-S EM31 inphase component data of approximately 0.7 parts per thousand (ppt) above background (Figure A-7). Anomaly A-3 is interpreted to be a low concentration of buried metal, not likely a buried drum(s).

Anomaly A-4. Anomaly A-4 consists of multiple features in the north-central portion of the site centered at approximately (295N, 135E). Anomaly A-4 occurs in the magnetic data with responses, that vary from 1,500 to 3,300 nT (Figure A-2) and in the EM61 data with responses, that vary from 100 to 3,000 mV (Figures A-4 and A-5). EM61 UX-detect depth modeling indicates that the source objects are located between 1 to 5 feet bgs (Figure A-6). Anomaly A-4 has a moderate amplitude EM31 conductivity response approximately 15 milliSiemens per meter (mS/m) below background (Figures A-8 and A-10). Anomaly A-4 occurs in the EM31 inphase component data as a moderate- to high-amplitude anomaly with a response varying from 4 ppt above background to 10 ppt below background (Figures A-7 and A-9). Portions of Anomaly A-4 extend beyond the boundaries of the survey area, therefore the lateral extents of the anomaly cannot be determined Anomaly A-4 is interpreted to be caused by a high concentration of buried metal, possibly representing buried drums.

Anomaly A-5. Anomaly A-5 consists of two individual features that are centered at approximately (255N, 170E) and (256N, 190E) Anomaly A-5 occurs as two high-amplitude magnetic anomalies with responses, which vary from 2,600 to 3,100 nT (Figure A-2). Anomaly A-5 is interpreted to be caused by a low concentration of buried metal, possibly representing deeply buried metal objects.

Anomaly A-6. Anomaly A-6 is a perimeter anomaly located at approximately (240N, 50E). Anomaly A-6 occurs as a moderate-amplitude anomaly with a magnetic response of approximately 900 nT and an EM61 response of approximately 220 mV (Figures A-2, A-4, and A-5). EM61 UX-detect depth modeling indicates that the source objects are located within 3 feet of ground surface (Figure A-6). Anomaly A-6 extends beyond the western boundary of the survey area, therefore the lateral extents of the anomaly cannot be determined. Anomaly A-6 is interpreted to be caused by a moderate concentration of buried metal, possibly representing buried drums

Anomaly A-7. Anomaly A-7 is located at approximately (190N, 60E) Anomaly A-7 occurs as a high-amplitude anomaly in the magnetic data with a response exceeding 3,700 nT (Figure A-2). Anomaly A-7 has a subtle response of approximately 75 mV in the EM61 data (Figures A-4 and A-5). EM61 UX-detect depth modeling indicates that the source objects are located within 3 feet of ground surface (Figure A-6). Anomaly A-7 is interpreted to be caused by a moderate concentration of buried metal, possibly representing buried drums.

Anomaly A-8. Anomaly A-8 is located at approximately (160N, 130E). Anomaly A-8 occurs as high-amplitude anomalies in the magnetic data (Figure A-2) and the EM31 data sets (Figures A-7 through A-10). The magnitude of Anomaly A-8's response cannot be determined due to the anomaly's proximity to a nearby pipeline. Anomaly A-8 is likely a utility vault or valve box, however, the possibility remains that it could be caused by buried drums.

Anomaly A-9. Anomaly A-9 consists of multiple features in the southwestern portion of the site centered at approximately (135N, 80E). Anomaly A-9 occurs in the magnetic data as several moderate- to high-amplitude anomalies with responses ranging from 600 to1,500 nT (Figure A-2). Anomaly A-9 occurs in the EM61 data as a broad distribution of anomalies with responses in the range of 60 to 200 mV with isolated sources exceeding 1,500 mV (Figures A-4 and A-5). EM61 UX-detect depth modeling indicates that the source objects are located between 1 to 3 feet bgs (Figure A-6). Anomaly A-9 occurs in the EM31 inphase component data as a low that exceeds 3.1 ppt below background (Figures A-7 and A-9). The EM31 inphase low corresponds with high-amplitude magnetic and EM61 anomalies indicating a high concentration of buried metal, possibly representing buried drums.

Anomaly A-10. Anomaly A-10 is located at approximately (100N, 15E) and (75N, 25E). Anomaly A-10 occurs as two moderate-amplitude magnetic anomalies with responses that range from approximately 450 to 820 nT (Figure A-2) Anomaly A-10 occurs in the EM61 data as multiple low-amplitude anomalies with responses of approximately 25 mV (Figures A-4 and A-5). EM61 UX-detect depth modeling indicates that the source objects are located between 3 to 4 feet bgs (Figure A-6). Anomaly A-10 is interpreted to be moderate concentrations of buried metal, possibly representing buried drums.

Anomaly A-11. Anomaly A-11 is a perimeter anomaly located at approximately (45N, 12E) Anomaly A-11 occurs only in the magnetic data as a high-amplitude anomaly exceeding 1,500 nT (Figure A-2). A portion of Anomaly A-11 extends beyond the boundary of the survey area, therefore the lateral extents of the anomaly cannot be determined. Anomaly A-11 is interpreted as a low concentration of buried metal trending offsite to the west.

Anomaly A-12. Anomaly A-12 is located at approximately (38N, 75E). Anomaly A-12 occurs in the magnetic data as a high-amplitude anomaly with a response of approximately 1,000 nT (Figures A-2). Anomaly A-12 occurs as a low-amplitude anomaly in the EM61 data with a response of approximately 170 mV (Figures A-4 and A-5). EM61 UX-detect depth modeling indicates that the source objects are located within 1 foot of ground surface (Figure A-6) Anomaly A-12 is interpreted as a high concentration of buried metal, not likely a buried drum(s).

Anomaly A-13. Anomaly A-13 is located at approximately (50N, 130E). Anomaly A-13 occurs as a high-amplitude magnetic dipole with a response exceeding 1,300 nT (Figure A-2). Anomaly A-13 has a moderate-amplitude response in the EM61 data of approximately 350 mV (Figure A-4 and Figure A-5). EM61 UX-detect depth modeling indicates that the source object is located between 1 to 2 feet bgs (Figure A-6). Anomaly A-13 occurs in the EM31 inphase component data as a moderate-amplitude anomaly with a response of approximately 4 ppt (Figures A-7 and A-9). Anomaly A-13 is interpreted as a high-concentration of buried metal, possibly representing a pit of buried drums.

Anomaly A-14. Anomaly A-14 is located at approximately (92N, 260E). Anomaly A-14 occurs as a low-amplitude magnetic anomaly with a response of approximately 200 nT (Figure A-2). Anomaly A-14 has moderate- to high-amplitude responses in the EM61 data ranging from approximately 500 to 2,800 mV (Figures A-4 and A-5). EM61 UX-detect depth modeling indicates that the source objects are located between 2 to 3 feet bgs (Figure A-6) Anomaly A-14 occurs as an EM31 inphase component anomaly with a response of approximately 2 2 ppt below background. The magnetic and EM data responses for Anomaly A-14 may be partially masked by the nearby metal fence. Anomaly A-14 is interpreted as a high concentration of buried metal, possibly representing a buried drum(s)

Anomaly A-15. Anomaly A-15 is a perimeter anomaly located at approximately (18N, 50E). Anomaly A-15 occurs in the magnetic data as a moderate-amplitude monopole with a response of approximately 900 nT below background (Figure A-2) Anomaly A-15 has a moderate-amplitude EM61 response of 300 mV (Figures A-4 and A-5). EM61 UX-detect depth modeling indicates that the source objects are located between 1 to 2 feet bgs (Figure A-6). The magnetic and EM data responses for Anomaly A-15 may be partially masked by the nearby metal fence Anomaly A-15 extends beyond the boundary of the survey area, therefore the lateral extents of the anomaly cannot be determined. Anomaly A-15 is interpreted to be caused by a high concentration of buried metal possibly trending offsite to the south.

4.2.2 SWMUs 19 & 20 Anomalies

The geophysical anomalies identified in the data are indicated on the data maps and interpretation map as Anomalies B-1 through B-7. These anomalies are interpreted to be caused by buried metal objects large enough to represent individual drums, USTs or pits containing more than one drum. The site map with geophysical interpretation (Figure B-1) shows the boundaries and relative concentrations of buried metal at the site.

Anomaly B-1. Anomaly B-1 is located at approximately (307N, 177E) It occurs as a high-amplitude anomaly in both the magnetic and EM data. Anomaly B-1 has a response of approximately 2,700 nT in the magnetic data (Figure B-2) and 1,300 mV in the EM61 data (Figures B-4 and B-5). EM61 UX-detect depth modeling indicates that the source object is approximately 2 to 3 feet bgs (Figure B-6) Anomaly B-1 has a high-amplitude response in the EM31 inphase component data of 6 ppt below background (Figures B-7 and B-9) and in the conductivity data of approximately 30 mS/m below background (Figures B-8 and B-10). Anomaly B-1 is interpreted as a high concentration of buried metal possibly representing a UST or a pit of buried drums.

Anomaly B-2. Anomaly B-2 is located at approximately (265N, 205E). Anomaly B-2 has a low-amplitude magnetic response of approximately 120 nT (Figure B-2). Anomaly B-2 has an EM61 response of that exceeds 800mV (Figures B-4 through B-6). EM61 UX-detect depth modeling indicates that the source object is approximately 1 to 2 feet bgs. Anomaly B-2 has an EM31 conductivity response approximately 10 mS/m below background and occurs in the EM31 inphase component data with a response of 3.6 ppt below background (Figures B-7 through B-10). Anomaly B-2 is interpreted as a moderate concentration of buried metal possibly representing a valve box, a utility vault, a UST or a pit of buried drums.

Anomaly B-3. Anomaly B-3 is located at approximately (33N, 0E). Anomaly B-3 occurs only in the EM61 data with a response exceeding 250 mV (Figures B-4 through B-6). EM61 UX-detect depth modeling indicates that the source object is within 1 foot of the surface. Anomaly B-3 is interpreted as a low concentration of non-ferrous buried metal, not likely a buried drum(s).

Anomaly B-4. Anomaly B-4 is located at approximately (25N, 25E). Anomaly B-4 occurs only in the EM61 data with a response that exceeds 500 mV (Figures B-4 through B-6). EM61 UX-detect depth modeling indicates that the source object is within 1 foot of the surface. Anomaly B-4 is interpreted as a low concentration of non-ferrous buried metal not likely a buried drum(s).

Anomaly B-5. Anomaly B-5 is located at approximately (40N, 25E) Anomaly B-5 occurs only in the magnetic data with a response of 550 nT (Figure B-2). Anomaly B-5 is interpreted to be caused by a low concentration of ferrous metal, not likely a buried drum(s).

Anomaly B-6. Anomaly B-6 is located at approximately (0N, 220E). It occurs as a high-amplitude anomaly in both the magnetic and EM data. Anomaly B-6 occurs in the magnetic data with a response of approximately 1,100 nT (Figure B-2) and in the EM61 data with a response of approximately 70 mV with an isolated source exceeding 1,700 mV (Figures B-4 and B-5). EM61 UX-detect depth modeling indicates that the source object is approximately 1 to 3 feet bgs (Figure B-6). Anomaly B-6 occurs as a high-amplitude anomaly in the E-W EM31 inphase data with a response of approximately 7 ppt below background (Figure B-9). Anomaly B-6 has an EM31 conductivity data response that varies from 12 mS/m below background to 14 mS/m above background (Figures B-8 and B-10). This signature is characteristic of shallow buried metal. The linear nature of Anomaly B-6 indicates the possibility that it could be caused by a section of pipeline/utility. Anomaly B-6 is interpreted as a high concentration of buried metal possibly representing a section of pipe, a small UST, or a pit of buried drums.

Anomaly B-7. Anomaly B-7 is located at approximately (20N, 265E). It occurs as a high-amplitude anomaly in both the magnetic and EM data. Anomaly B-7 occurs in the magnetic data with a response of approximately 2,700 nT (Figure B-2) and in the EM61 data with a response of approximately 1,300 mV (Figures B-4 and B-5). EM61 UX-detect depth modeling indicates that the source object is within approximately 2 feet of the surface (Figure B-6) Anomaly B-7 occurs in the EM31 conductivity data as a high-amplitude response that varies from 80 mS/m below background to 50 mS/m above background (Figures B-8 and B-10). This signature is typical of shallow buried metal The linear nature of Anomaly B-7 indicates the possibility that it could be caused by a section of pipe. Anomaly B-7 is interpreted as a high concentration of buried metal possibly a section of pipe or a trench/pit of buried drums.

5.0 Conclusions and Recommendations

Surface geophysical surveys using magnetic and EM methods were conducted at the AOC 19 and SWMUs 19 & 20 sites at NAS Ft. Worth JRB (Formerly Carswell AFB) from February 12 through 16, 2001. The objective of the survey at the AOC 19 site was to locate buried metal objects potentially representing drums The objectives of the survey at the SWMUs 19 & 20 site were to locate buried metal objects potentially representing drums and a 10,000-gallon UST. The total area investigated was approximately 189,950 square feet (approximately 4.36 acres).

Twenty-two geophysical anomalies caused by buried metal are identified on the data maps The site maps with geophysical interpretation (Figures A-1 and B-1) show the boundaries and relative concentrations of buried metal at the sites. At the AOC 19 site, five anomalies are caused by source anomalies that extend offsite. In order to fully delineate these anomalies site expansions are recommended at the western and southern boundaries. Intrusive investigation is recommended at all anomaly locations to identify the source objects.

Detailed hand sketches were drawn in the field to document all permanent site reference features and to provide a basis for future reconstruction of the survey areas. Due to the uncertainty of true field positions inherent when establishing survey areas using a 300-foot fiberglass tapes in the presence of wind and surface obstructions (e g., fences, monitoring wells and surface metal), the lateral precision for the survey areas and anomalies is believed to be within +/- 2 feet.

Pipelines are indicated on the site interpretation maps where evident in the geophysical data. However, the utilities shown on the maps should not be used to preclude proper geophysical clearance work at those exploratory trenching locations where buried utilities are suspect. Proper geophysical clearance work typically involves obtaining available utility maps and conducting "point" clearances with an EM utility locator and ground penetrating radar.

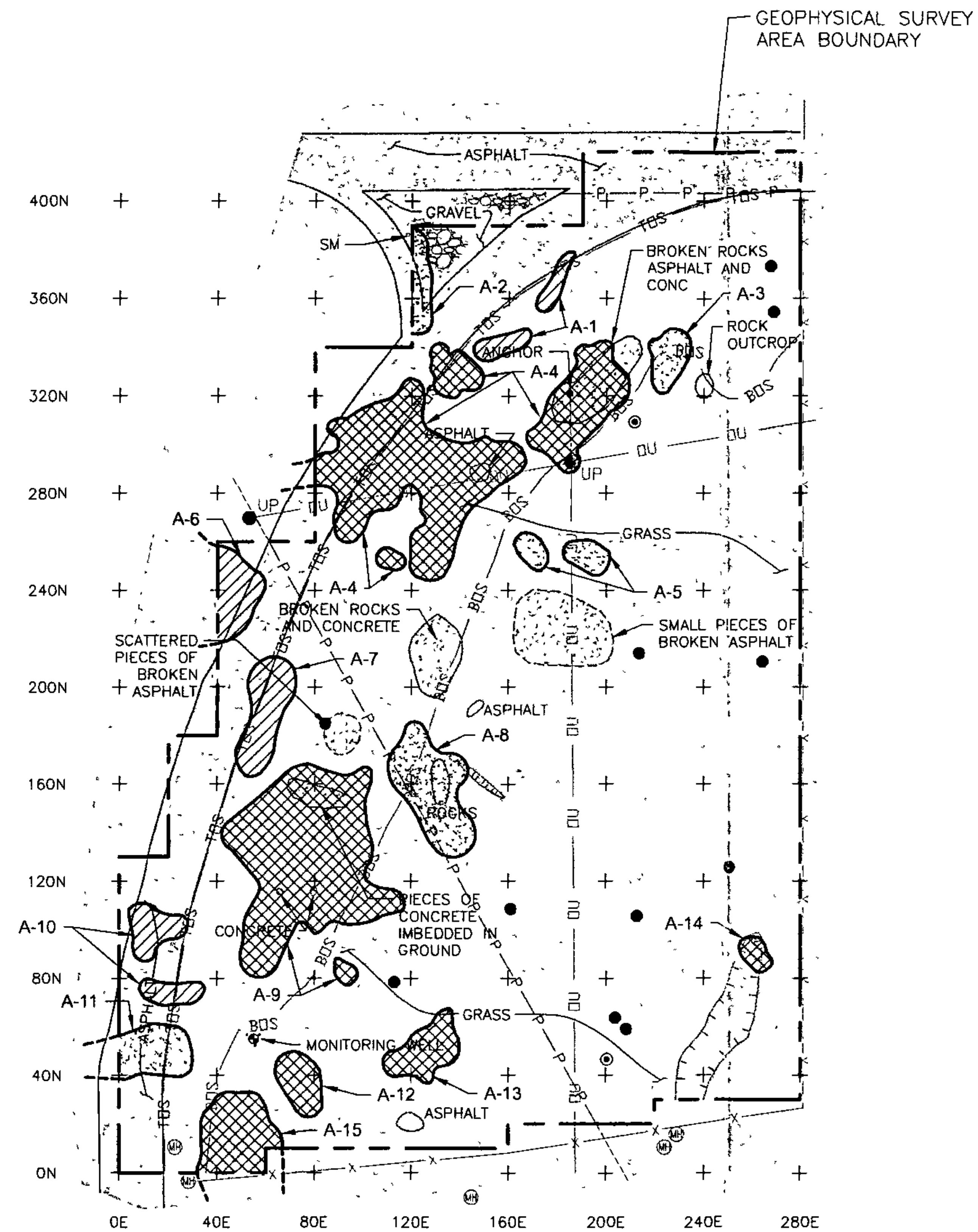
To relocate the survey areas and anomalies, IT recommends using the detailed information contained on the site interpretation maps (Figures A-1 and B-1).

APPENDIX A

AOC 19 Site

Site Map with Geophysical Interpretation
G-858G Total Magnetic Field Upper Sensor Contour Map
G-858G Total Magnetic Field Analytic Signal Map
EM61 Potential Difference Contour Maps
EM61 Target Depth Estimate Map
EM31 In-Phase Component Contour Maps
EM31 Conductivity Contour Maps

724 173



LEGEND

A-1	GEOPHYSICAL ANOMALY DISCUSSED IN TEXT
	LOW CONCENTRATION OF BURIED METAL
	MODERATE CONCENTRATION OF BURIED METAL
	HIGH CONCENTRATION OF BURIED METAL
	BURIED METAL OBJECT
	DIRECT PUSH SAMPLE LOCATION
	MONITORING WELL
UP	UTILITY POLE
	DEPRESSION
—x—	FENCE
— DU —	OVERHEAD UTILITIES
— P —	LOCATION OF BURIED PIPE OR UTILITY
CC	CONCRETE
RC	REINFORCED CONCRETE
SM	SURFACE METAL

NOTES 1) LOCATION OF FEATURES OUTSIDE SURVEY AREA ARE APPROXIMATE

N

SCALE 1"=60'

0 20 40 60 120 FEET

FIGURE A-1
AOC 19 SITE MAP WITH GEOPHYSICAL INTERPRETATIONS AT NAS FT. WORTH JRB (FORMERLY CARSWELL AFB) FORT WORTH, TEXAS

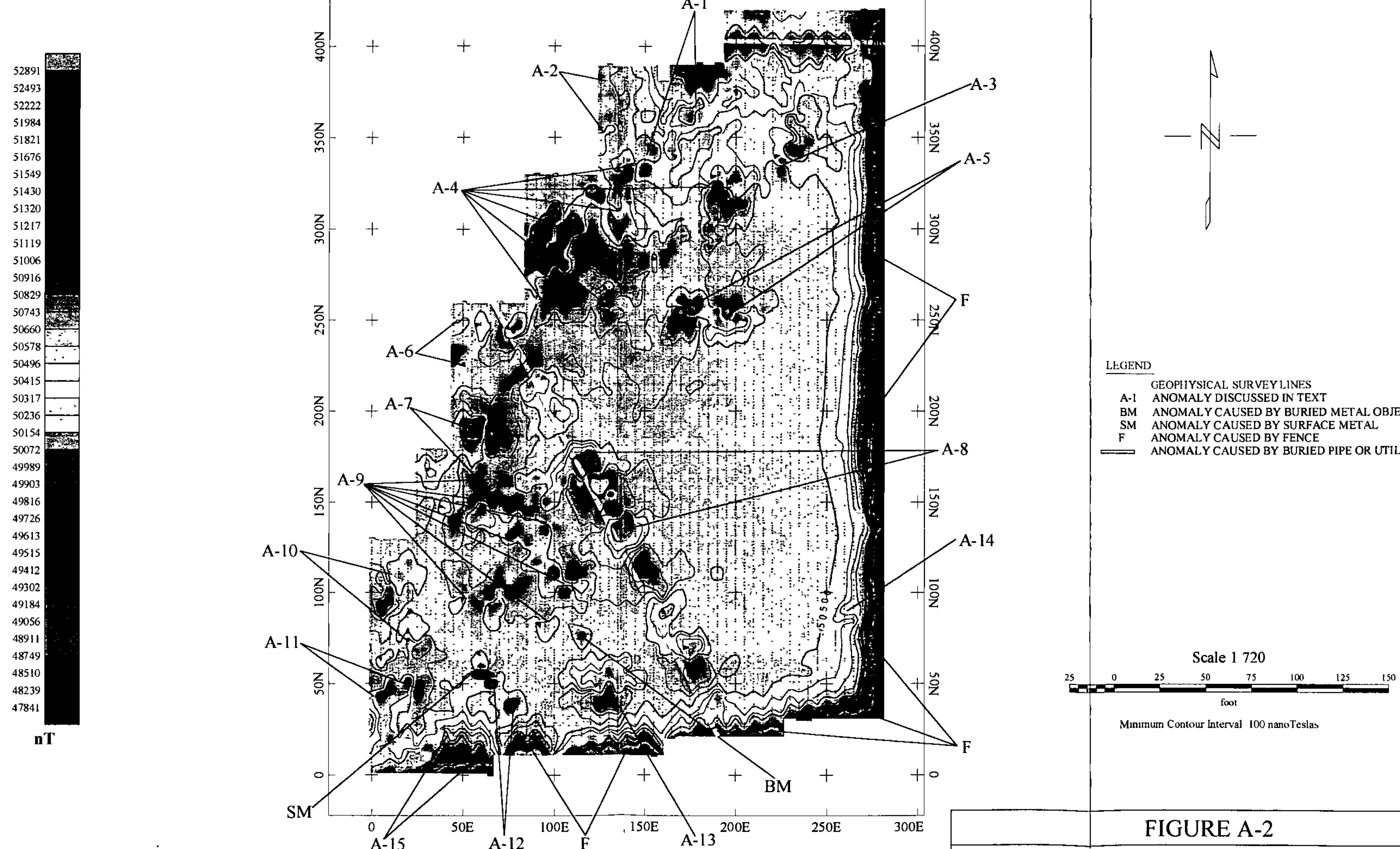
PREPARED FOR

HYDROGEOLOGIC, INC.
HERNDON, VIRGINIA

IT CORPORATION

DRAWN BY	MSN	2/22/01	CHECKED BY	MM	APPROVED BY	JH	DRAWING NUMBER	2001 09-01 DWG

N \Acad DWGs\2001 09\2001 09-01 dwg, Figure A-1 03/14/01 12 06 32 PM, 1 1



LEGEND

	GEOPHYSICAL SURVEY LINES
A-1	ANOMALY DISCUSSED IN TEXT
BM	ANOMALY CAUSED BY BURIED METAL OBJECT
SM	ANOMALY CAUSED BY SURFACE METAL
F	ANOMALY CAUSED BY FENCE
	ANOMALY CAUSED BY BURIED PIPE OR UTILITY

Minimum Contour Interval 100 nanoTeslas

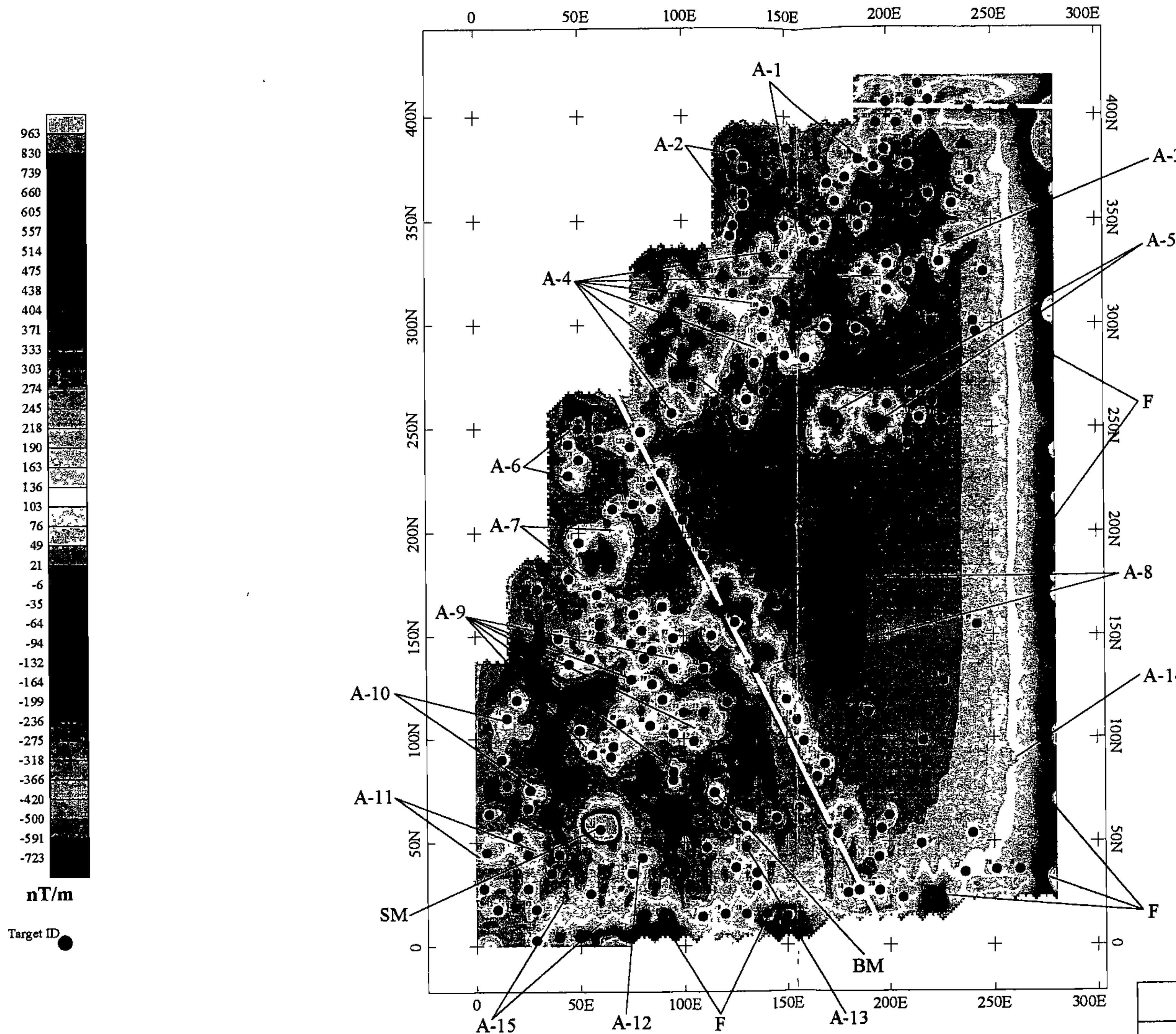
NAME	DATE
Micki Maki	February 20, 2001
PROJECT NUMBER	LOCATION
800870	C:\projects\carswell2\AOC19\MAG\TOP.map

FIGURE A-2

G-858G TOTAL MAGNETIC FIELD
UPPER SENSOR (4 5 FT ABOVE GROUND SURFACE)
NORTH-SOUTH SURVEY LINES

AOC 19
NAS FT WORTH JRB (FORMERLY CARSWELL AFB)
FORT WORTH, TEXAS

IT GEOPHYSICS GROUP KNOXVILLE, TENNESSEE



LEGEND

.	GEOPHYSICAL SURVEY LINES
A-1	ANOMALY DISCUSSED IN TEXT
BM	ANOMALY CAUSED BY BURIED METAL OBJECT
SM	ANOMALY CAUSED BY SURFACE METAL
F	ANOMALY CAUSED BY FENCE
▭	ANOMALY CAUSED BY BURIED PIPE OR UTILITY

Scale 1.720

25 0 25 50 75 100 125 150

foot

FIGURE A-3

G-858G TOTAL MAGNETIC FIELD
ANALYTIC SIGNAL (3D MAGNETIC GRADIENT)
NORTH-SOUTH SURVEY LINES

AOC 19
NAS FT WORTH JRB (FORMERLY CARSWELL AFB)
FORT WORTH, TEXAS

IT GEOPHYSICS GROUP KNOXVILLE, TENNESSEE

NAME	DATE
Micki Maki	February 20, 2001
PROJECT NUMBER	LOCATION
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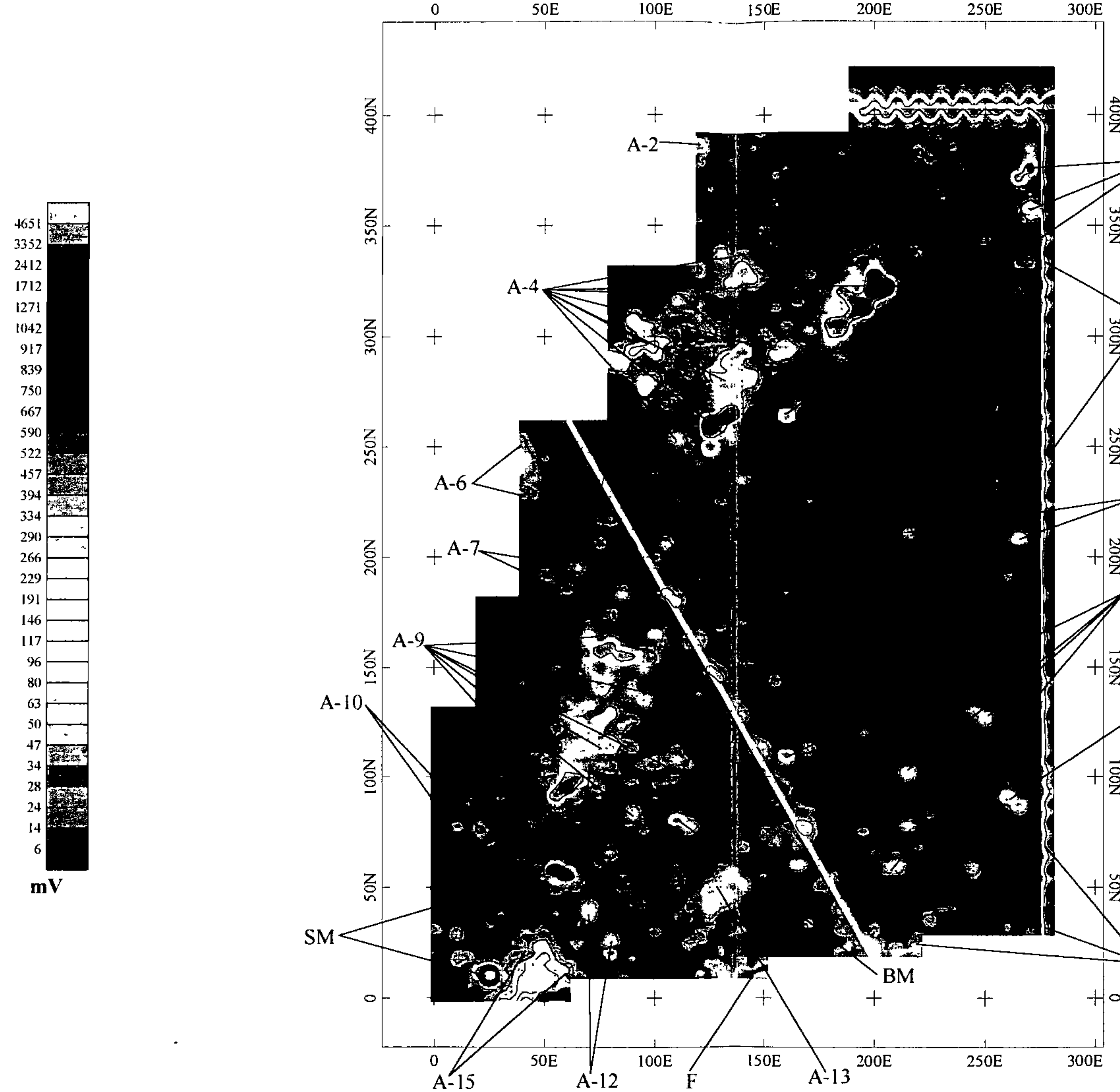
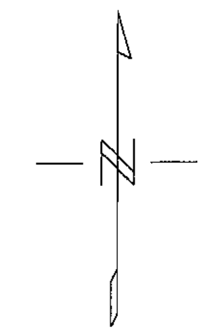




LEGEND

GEOPHYSICAL SURVEY LINES
A-1 ANOMALY DISCUSSED IN TEXT
SM ANOMALY CAUSED BY SURFACE METAL
BM ANOMALY CAUSED BY BURIED METAL OBJECT
F ANOMALY CAUSED BY FENCE
ANOMALY CAUSED BY BURIED PIPE OR UTILITY

Scale 1 720

25 0 25 50 75 100 125 150

feet

Minimum Contour Interval 50 milliVolts

NAME	DATE
Micki Maki	February 20, 2001
PROJECT NUMBER	LOCATION
800870	C:\projects\carswell2\AOC19\EM61\NB2.map

FIGURE A-4

EM61 POTENTIAL DIFFERENCE
BOTTOM COIL (1 5 FT ABOVE GROUND SURFACE)
NORTH-SOUTH SURVEY LINES

AOC 19
NAS FT WORTH JRB (FORMERLY CARSWELL AFB)
FORT WORTH, TEXAS

IT GEOPHYSICS GROUP KNOXVILLE, TENNESSEE

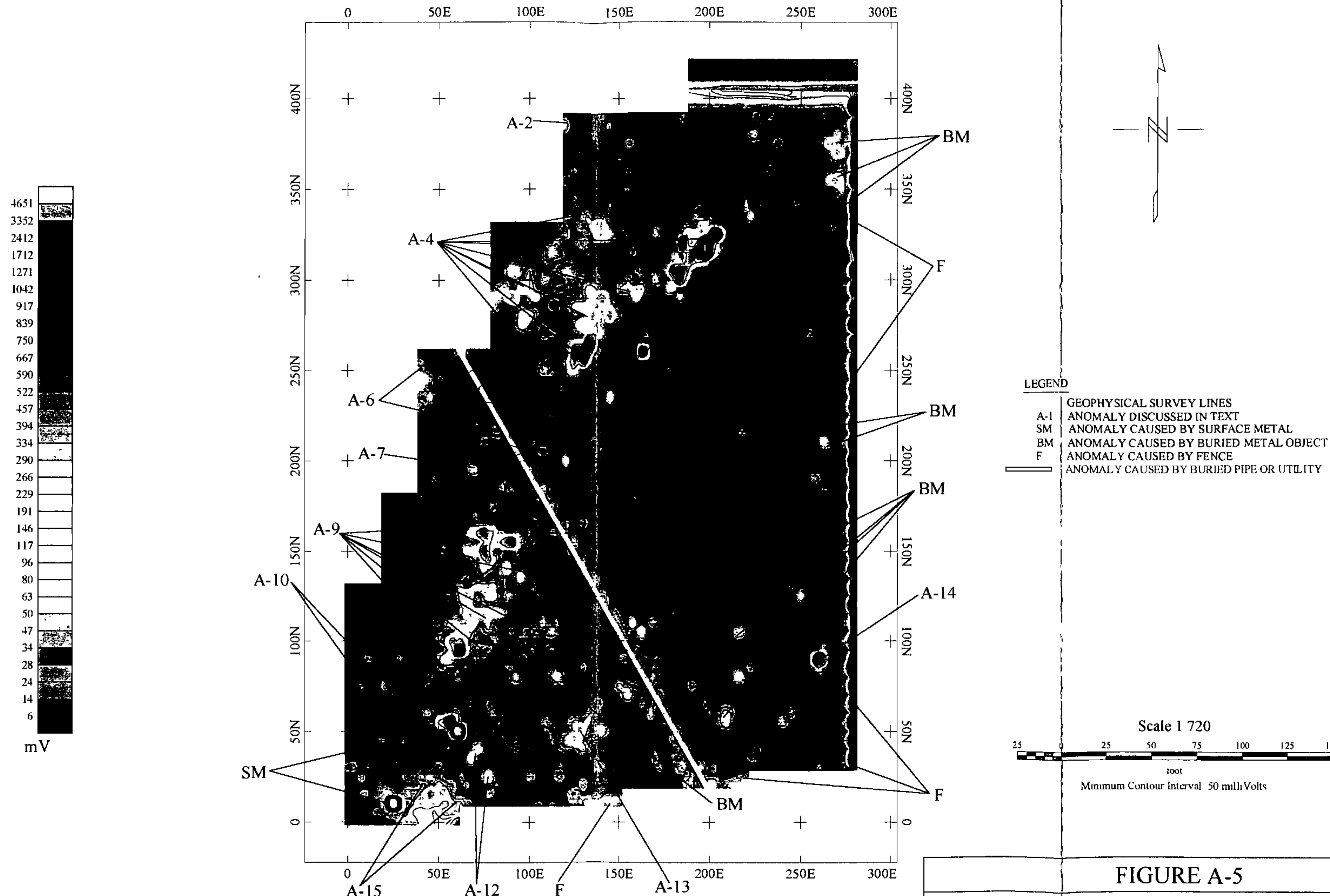


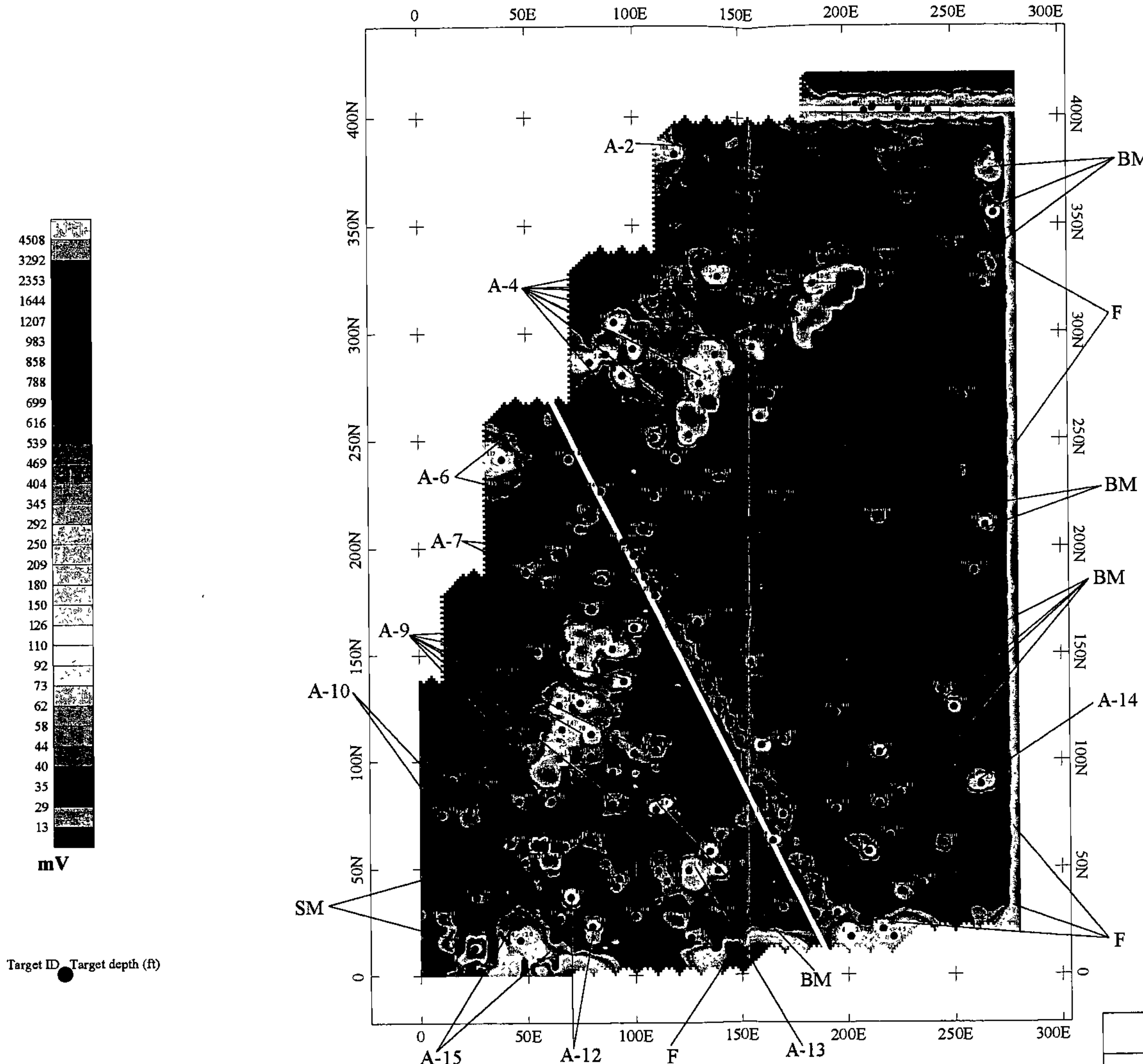
FIGURE A-5

EM61 POTENTIAL DIFFERENCE
BOTTOM COIL (1 5 FT ABOVE GROUND SURFACE)
EAST-WEST SURVEY LINES

AOC 19
NAS FT WORTH JRB (FORMERLY CARSWELL AFB)
FORT WORTH, TEXAS

IT GEOPHYSICS GROUP KNOXVILLE, TENNESSEE

NAME	DATE
Micki Maki	February 20, 2001
PROJECT NUMBER	LOCATION
800870	C \projects\carswell2\AOC 19\EM61\EB2.map



LEGEND

GEOPHYSICAL SURVEY LINES
A-1 ANOMALY DISCUSSED IN TEXT
SM ANOMALY CAUSED BY SURFACE METAL
BM ANOMALY CAUSED BY BURIED METAL OBJECT
F ANOMALY CAUSED BY FENCE
ANOMALY CAUSED BY BURIED PIPE OR UTILITY

Scale 1.720

25 0 25 50 75 100 125 150

foot

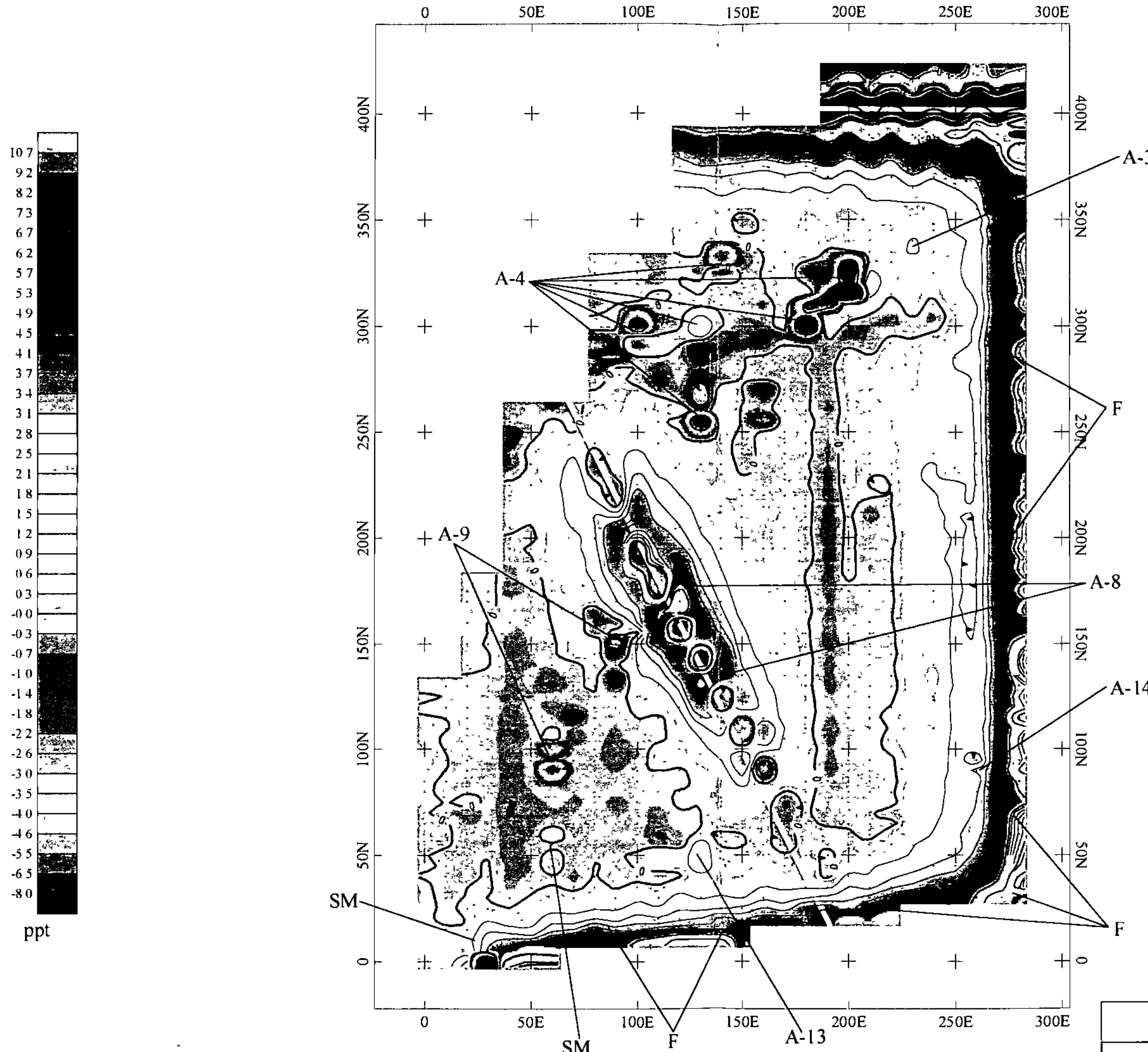
FIGURE A-6

EM61 POTENTIAL DIFFERENCE
TARGET DEPTH ESTIMATES
NORTH-SOUTH SURVEY LINES

AOC 19
NAS FT WORTH JRB (FORMERLY CARSWELL AFB)
FORT WORTH, TEXAS

IT GEOPHYSICS GROUP KNOXVILLE, TENNESSEE

NAME	DATE
Micki Maki	February 20, 2001
PROJECT NUMBER	LOCATION
800870	C:\projects\carswell2\AOC19\EM61\TARGET2.map



LEGEND

GEOPHYSICAL SURVEY LINES
A-1 ANOMALY DISCUSSED IN TEXT
SM ANOMALY CAUSED BY SURFACE METAL
F ANOMALY CAUSED BY FENCE
ANOMALY CAUSED BY BURIED PIPE OR UTILITY

Scale 1 720

25 0 25 50 75 100 125 150

feet

Minimum Contour Interval 1 ppt Secondary to Primary Field

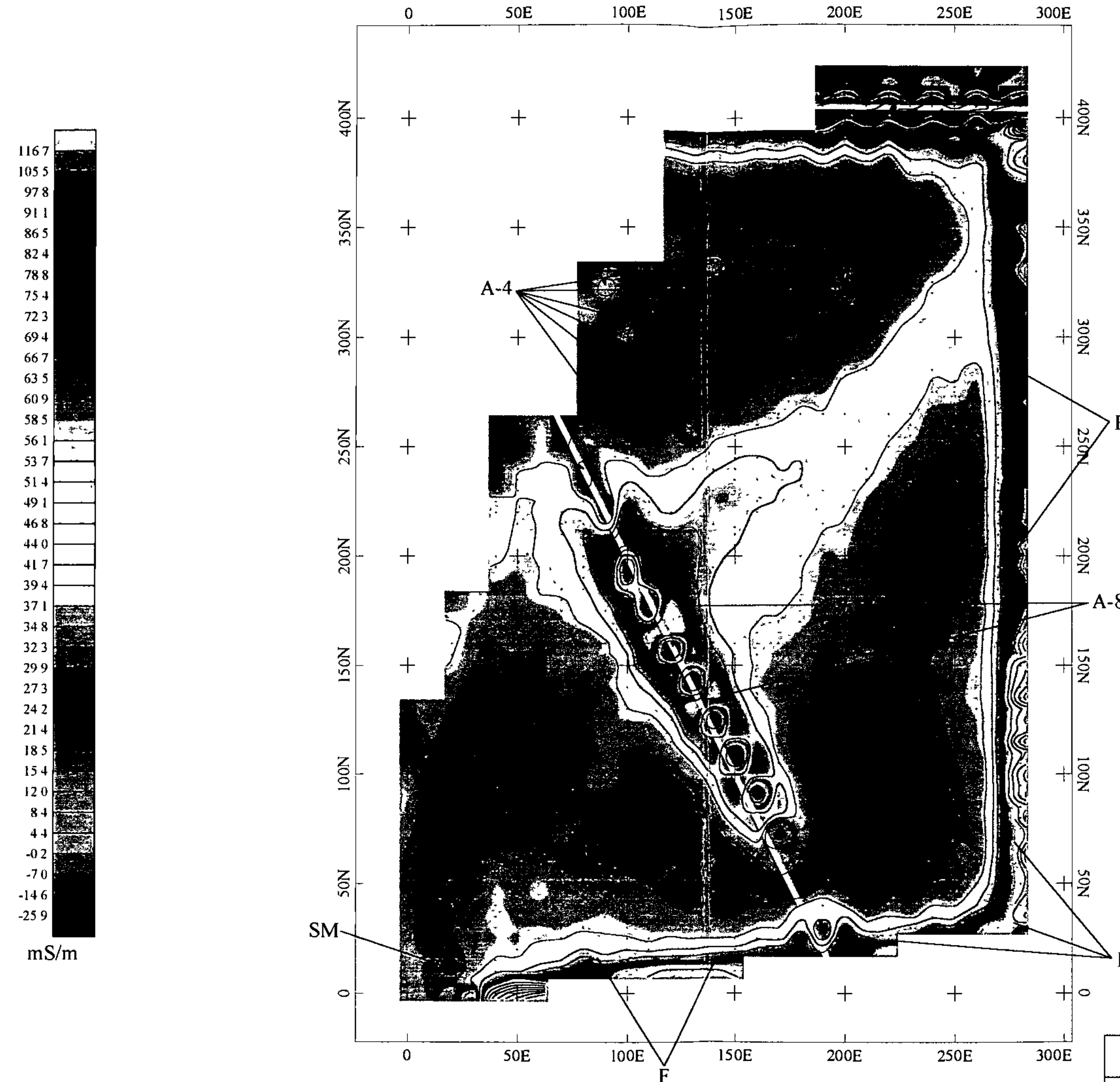
NAME	DATE
Micki Maki	February 20, 2001
PROJECT NUMBER	LOCATION
800870	C \projects\carswell2\AOC19\EM31\NI.map

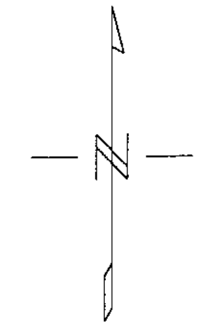
FIGURE A-7

EM31 INPHASE COMPONENT
VERTICAL DIPOLE (3 0 FT ABOVE GROUND SURFACE)
NORTH-SOUTH SURVEY LINES

AOC 19
NAS FT WORTH JRB (FORMERLY CARSWELL AFB)
FORT WORTH, TEXAS

IT GEOPHYSICS GROUP KNOXVILLE, TENNESSEE





LEGEND

	GEOPHYSICAL SURVEY LINES
A-1	ANOMALY DISCUSSED IN TEXT
SM	ANOMALY CAUSED BY SURFACE METAL
F	ANOMALY CAUSED BY FENCE
	ANOMALY CAUSED BY BURIED PIPE OR UTILITY

Scale 1 720

25 0 25 50 75 100 125 150

foot

Minimum Contour Interval 10 milliSiemens per meter

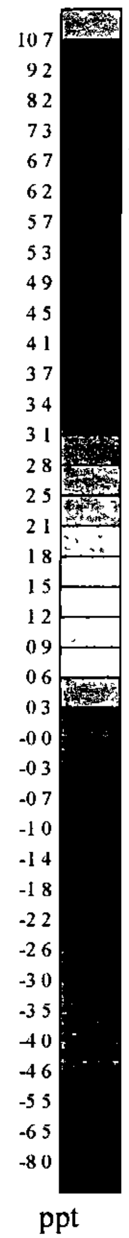
FIGURE A-8

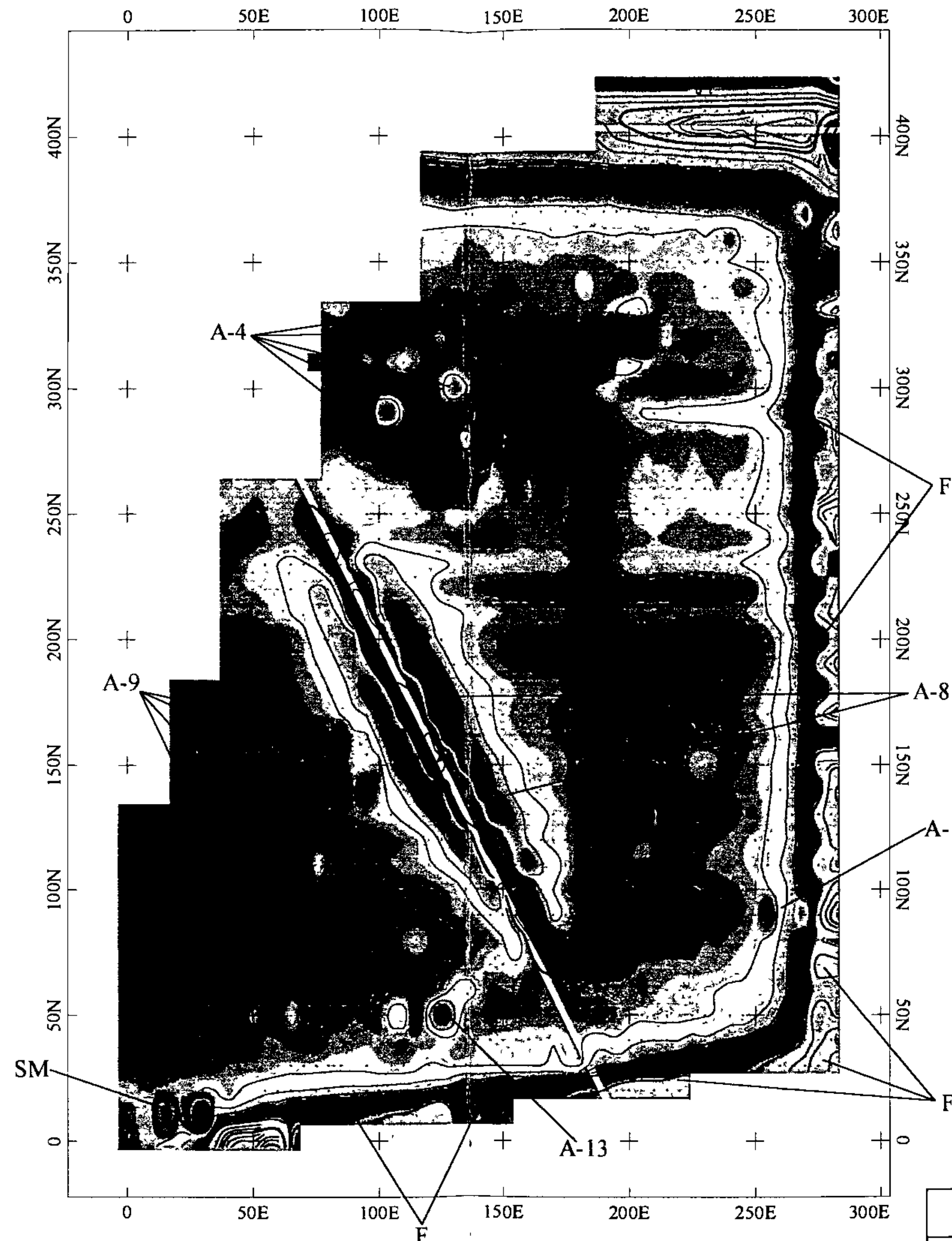
EM31 CONDUCTIVITY
VERTICAL DIPOLE (3.0 FT ABOVE GROUND SURFACE)
NORTH-SOUTH SURVEY LINES

AOC 19
NAS FT WORTH JRB (FORMERLY CARSWELL AFB)
FORT WORTH, TEXAS

IT GEOPHYSICS GROUP KNOXVILLE, TENNESSEE

NAME Micki Maki	DATE February 20, 2001
PROJECT NUMBER 800870	LOCATION C:\projects\carswell2\AOC19\EM31\NC map





LEGEND

GEOPHYSICAL SURVEY LINES
B-1 ANOMALY DISCUSSED IN TEXT
SM ANOMALY CAUSED BY SURFACE METAL
F ANOMALY CAUSED BY FENCE
ANOMALY CAUSED BY BURIED PIPE OR UTILITY

Scale 1 720

25 0 25 50 75 100 125 150

foot

Minimum Contour Interval 1 ppt Secondary to Primary Field

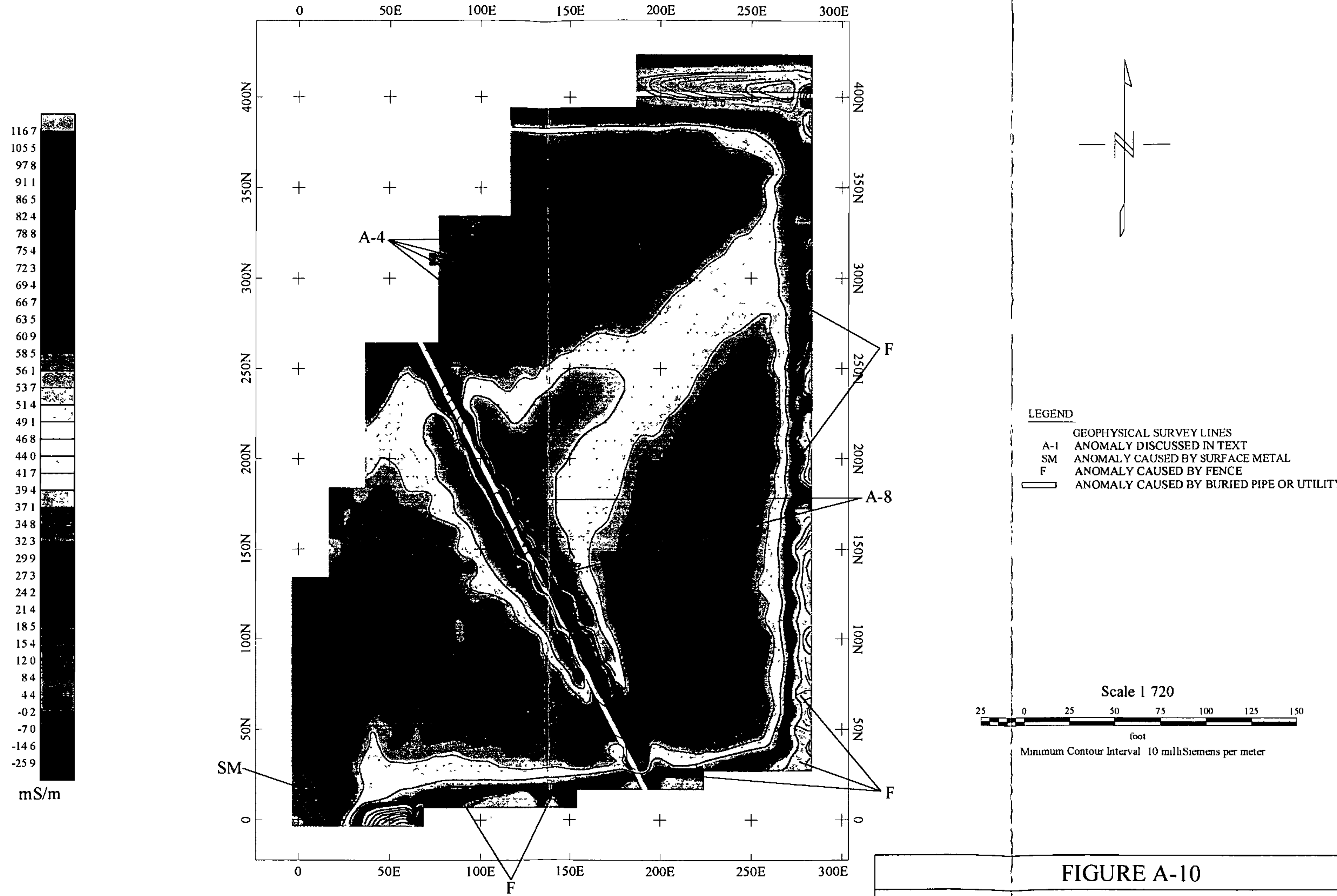
NAME	DATE
Micki Maki	February 20, 2001
PROJECT NUMBER	LOCATION
800870	C \projects\carswell2\AOC19\EM31\EI.map

FIGURE A-9

EM31 INPHASE COMPONENT
VERTICAL DIPOLE (3.0 FT ABOVE GROUND SURFACE)
EAST-WEST SURVEY LINES

AOC 19
NAS FT WORTH JRB (FORMERLY CARSWELL AFB)
FORT WORTH, TEXAS

IT GEOPHYSICS GROUP KNOXVILLE, TENNESSEE



NAME	DATE
Micki Maki	February 20, 2001
PROJECT NUMBER	LOCATION
800870	C:\projects\carswell2\AOC19\EM31\EC map

FIGURE A-10

EM31 CONDUCTIVITY
VERTICAL DIPOLE (3 0 FT ABOVE GROUND SURFACE)
EAST-WEST SURVEY LINES

AOC 19
NAS FT WORTH JRB (FORMERLY CARSWELL AFB)
FORT WORTH, TEXAS

IT GEOPHYSICS GROUP KNOXVILLE, TENNESSEE

APPENDIX B

SWMUs 19 & 20 Site

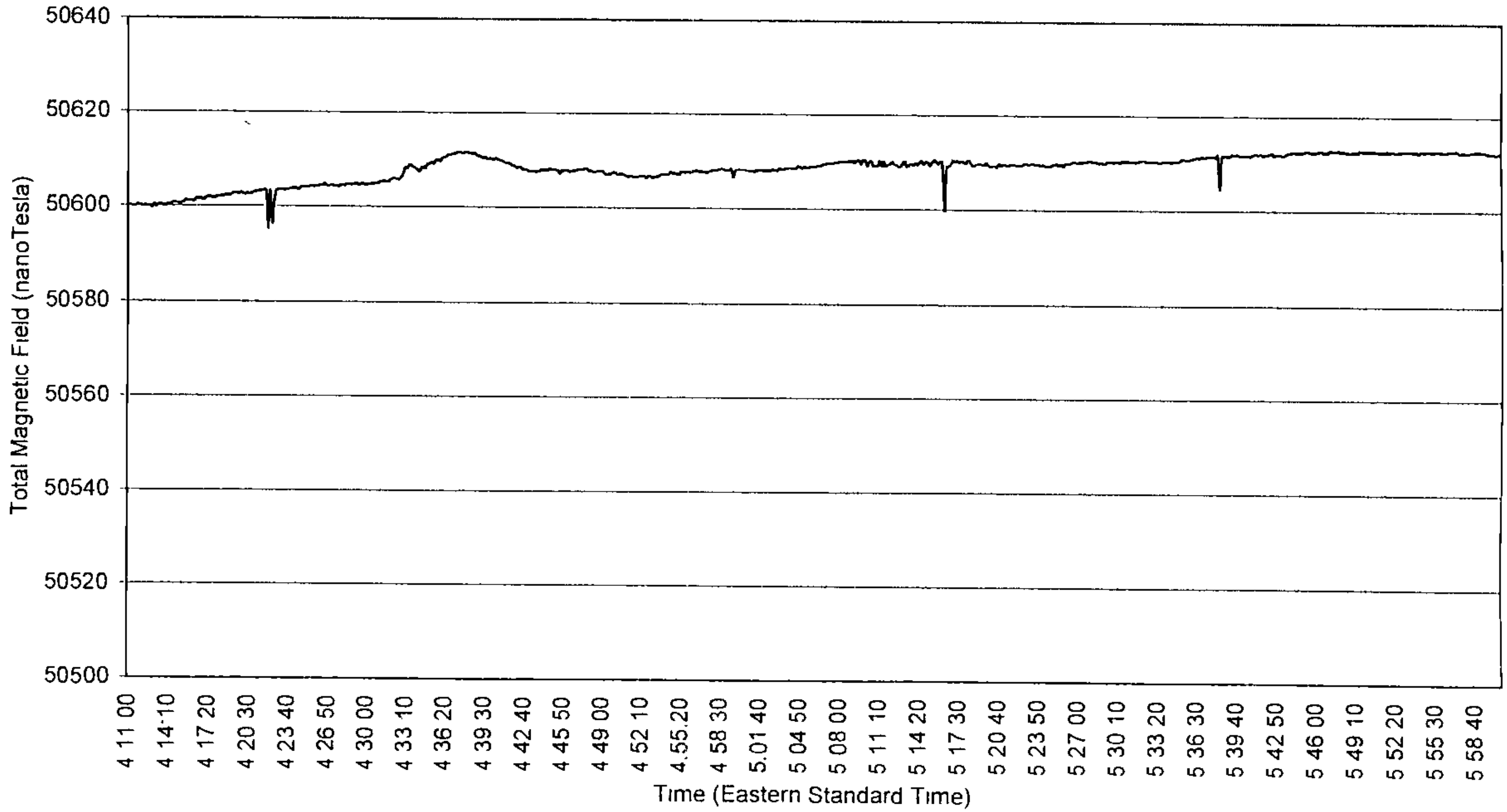
Site Map with Geophysical Interpretation
G-858G Total Magnetic Field Upper Sensor Contour Map
G-858G Total Magnetic Field Analytic Signal Map
EM61 Potential Difference Contour Maps
EM61 Target Depth Estimate Map
EM31 In-Phase Component Contour Maps
EM31 Conductivity Contour Maps

(NOT INCLUDED)

APPENDIX C

Magnetic Base Station Plots

Figure C-1
Magnetic (G-856) Base Station
February 12, 2001
NAS Ft Worth JRB (Formerly Carswell AFB)
Project No 800870



724 186

Figure C-2
Magnetic (G-856) Base Station
Febrauary 12,3, 2001
NAS Ft Worth JRB (Formerly Carswell AFB)
Project No 800870

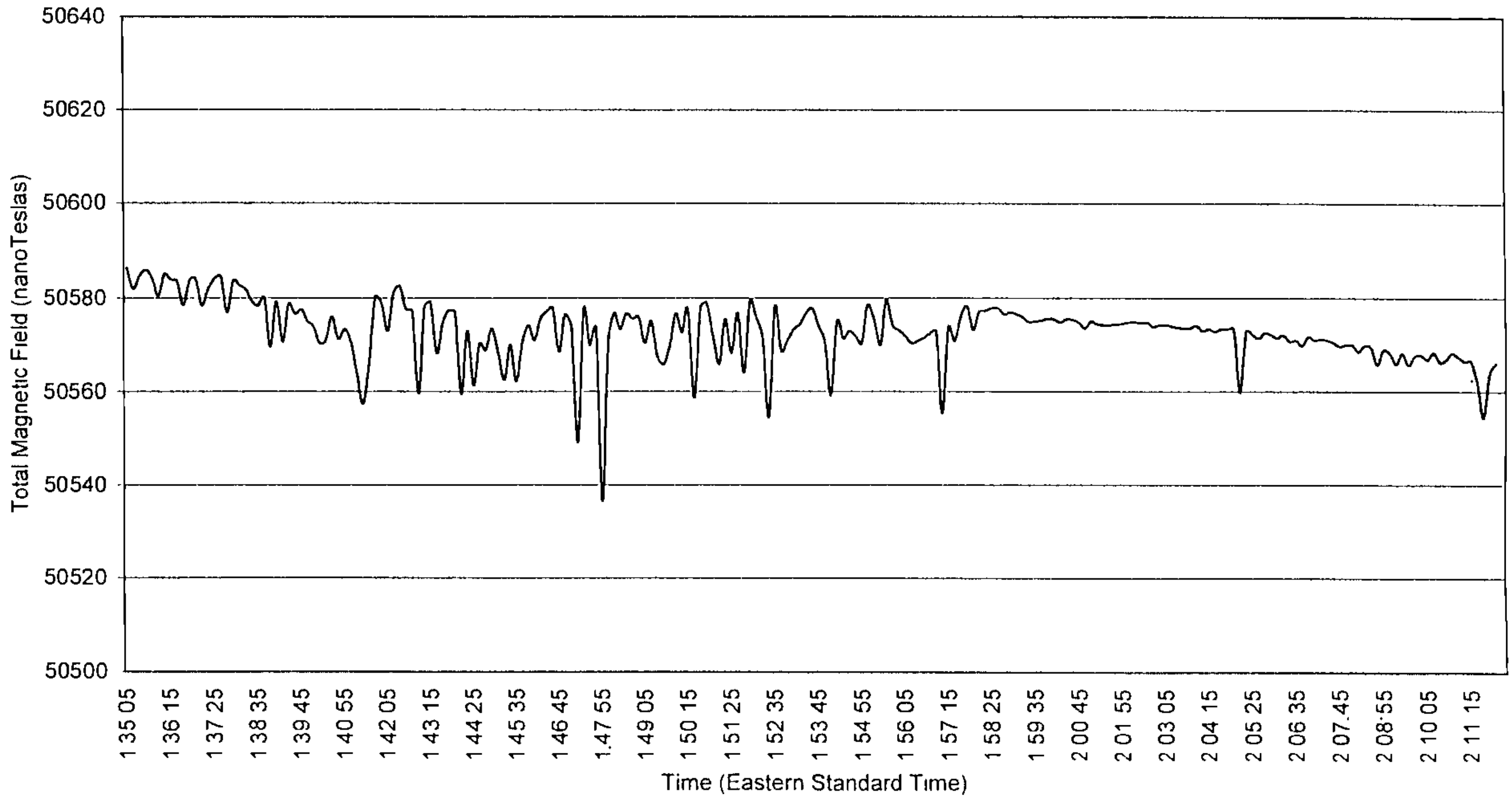
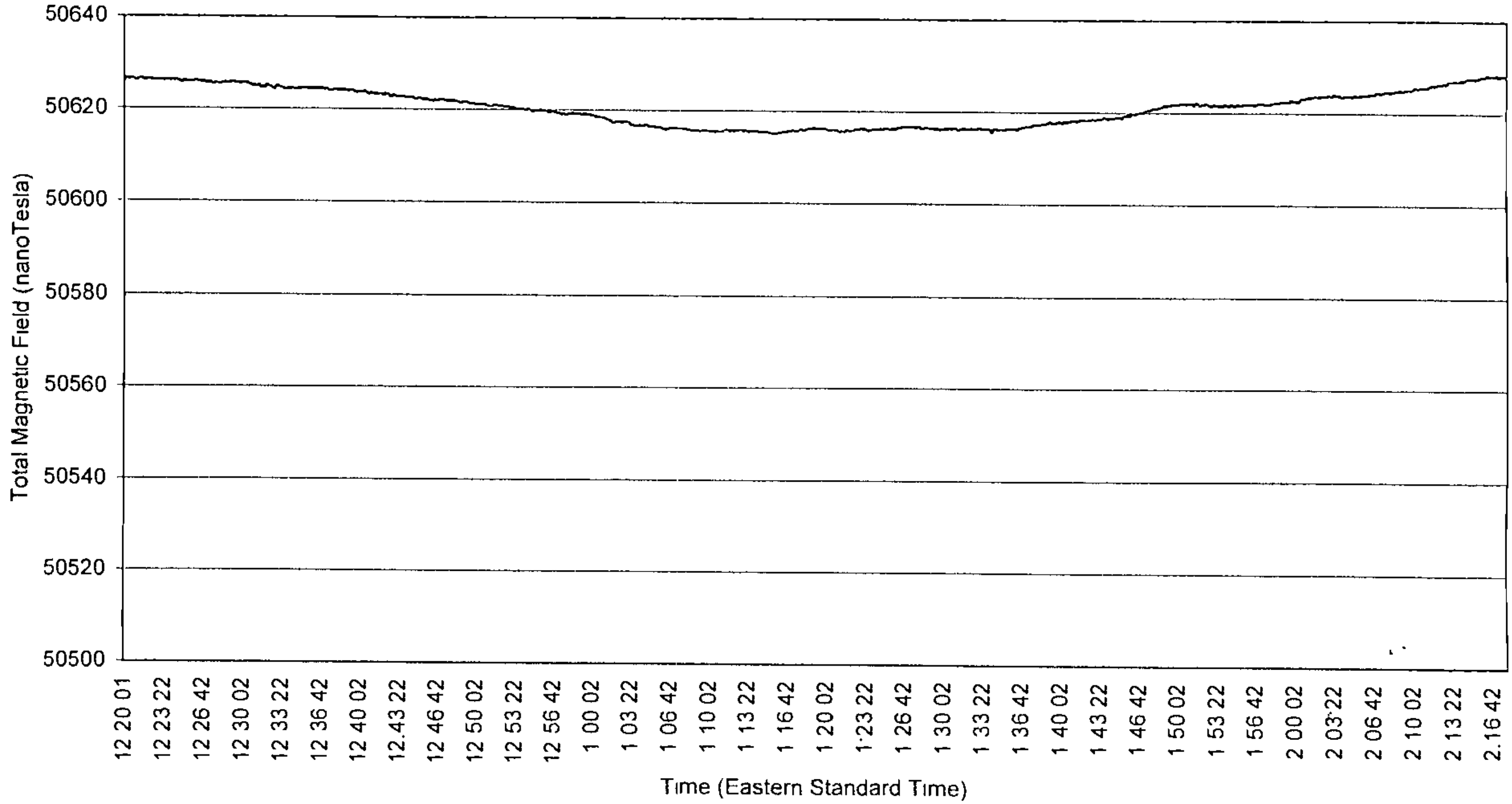


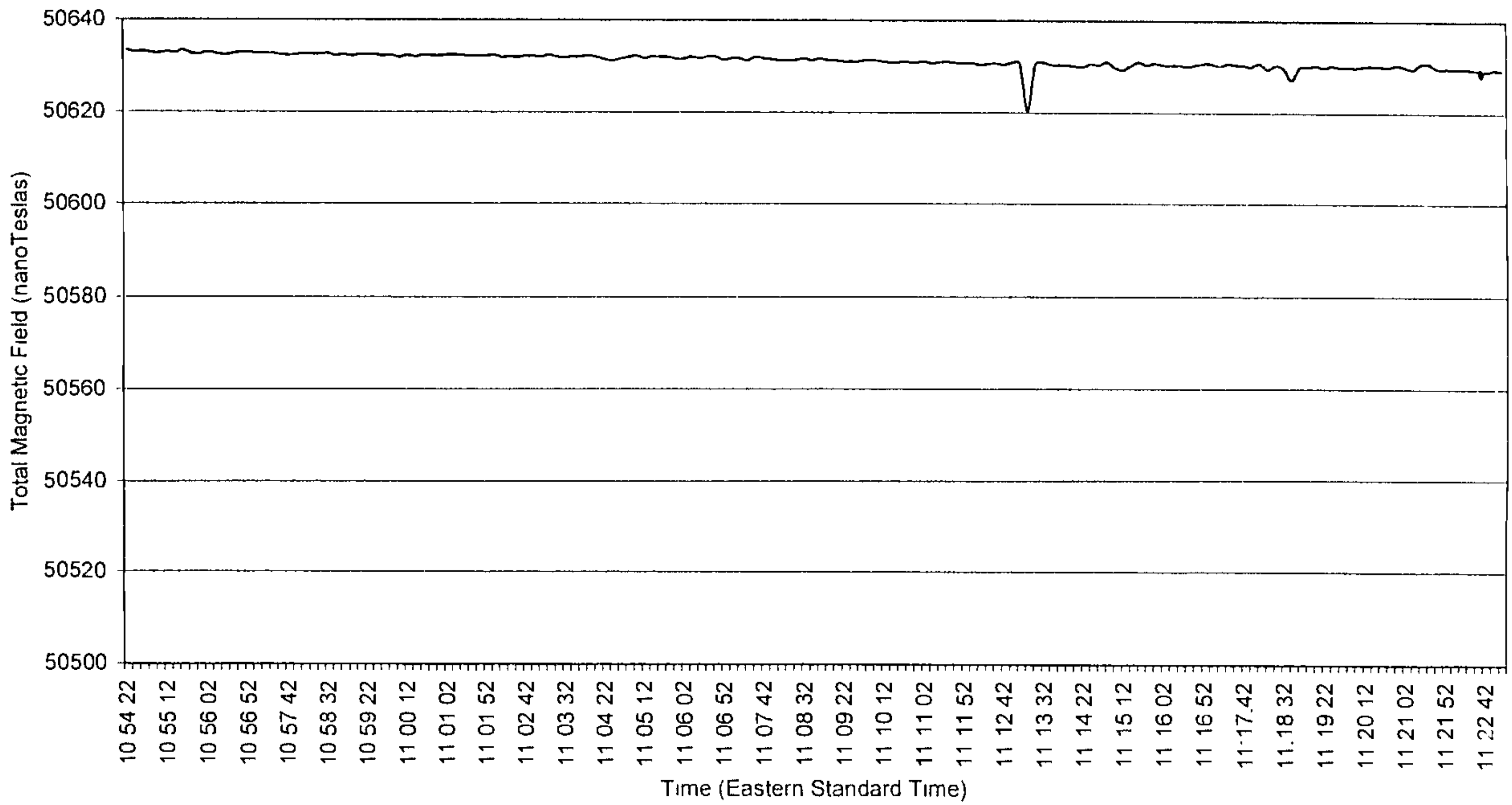
Figure C-3
Magnetic (G-856) Base Station
February 14, 2001
NAS Ft Worth JRB (Formerly Carswell AFB)
Project No 800870



724 187

724 188

Figure C-4
Magnetic (G-856) Base Station
February 15, 2001
NAS Ft Worth JRB (Formerly Carswell AFB)
Project No 800870



TAB

APPENDIX A: THEORETICAL BACKGROUND

APPENDIX D

THEORETICAL BACKGROUND

Table of Contents

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List of Acronyms

EM	electromagnetic induction
EM31	Geonics Limited EM31 Terrain Conductivity Meter
EM61	Geonics Limited EM61 High-Resolution Metal Detector
G-856	Geometrics Inc. G-856 Magnetometer
G-858G	Geometrics Inc. G-858G Magnetic Gradiometer
9860-BRL	Metrotech Inc 9860-BRL EM utility locator
JRB	Joint Reserve Base
mV	millivolts
mS/m	milliSiemens/meter
NAS	Naval Air Station
nT	nanoTeslas
nT/m	nanoTeslas/meter
ppt	parts per thousand
RF	radiofrequency
UXO	unexploded ordnance

D.1.0 Magnetic Method

The magnetic instruments used during the Naval Air Station (NAS) Ft Worth Joint Reserve Base (JRB) surface geophysical surveys were a Geometrics, Inc., G-858G "walking mode" magnetic gradiometer (G-858G) for acquiring survey data and a Geometrics, Inc., G-856 for collecting magnetic base station data.

The G-858G, which is an optically-pumped cesium vapor instrument, measures the intensity of the Earth's magnetic field in nanoTeslas (nT) and the vertical gradient of the magnetic field in nanoTeslas per meter (nT/m). The vertical gradient is measured by simultaneously recording the magnetic field with two sensors at different heights. To determine the vertical magnetic gradient, the upper sensor reading is subtracted from the lower sensor reading, and the result is then divided by the distance between the sensors. The distance between sensors for this investigation was 2.5 feet (0.76 meters) The vertical magnetic gradient measurement allows for better definition of shallower anomalies.

During operation of the G-858G magnetic gradiometer, a direct current is used to generate a polarized monochromatic light. Absorption of the light occurs within the naturally precessing cesium atoms found in the instrument's two vapor cells or sensors When absorption is complete, the precessing atoms become a transfer mechanism between light and a transverse radiofrequency (RF) field at a specific frequency of light known as the Larmor frequency. The light intensity is used to monitor the precession and adjusts the RF allowing for the determination of the magnetic field intensity (Sheriff, 1991)

The Earth's magnetic field is believed to originate in currents in the Earth's liquid outer core. The magnetic field varies in intensity from approximately 25,000 nT near the equator, where it is parallel to the Earth's surface, to approximately 70,000 nT near the poles, where it is perpendicular to the Earth's surface In Texas, the intensity of the Earth's magnetic field varies from 50,000 nT to 51,000 nT and has an associated inclination of approximately 54 degrees.

Anomalies in the Earth's magnetic field are caused by induced or remnant magnetism Remnant magnetism is caused by naturally occurring magnetic materials. Induced magnetic anomalies result from the induction of a secondary magnetic field in a ferromagnetic material (e.g., pipelines, drums, tanks, or well casings) by the Earth's magnetic field The shape and amplitude of an induced magnetic anomaly over a ferromagnetic object depend on the geometry, size, depth, and magnetic susceptibility of the object and on the magnitude and inclination of the Earth's magnetic field in the study area (Dobrin, 1976; Telford, et al , 1976) Induced magnetic anomalies over buried objects such as drums, pipes, tanks, and buried metallic debris generally exhibit an asymmetrical, south high/north low signature (maximum amplitude on the south side and minimum on the north). Magnetic anomalies caused by buried metallic objects generally have dimensions much greater than the dimensions of the objects themselves. As an extreme example, a magnetometer may begin to sense a buried oil well casing at a distance of greater than 50 feet.

The magnetic method is not effective in areas with ferromagnetic material at the surface because the signal from the surface material obscures the signal from any buried objects. Also, the presence of an alternating current electrical power source can render the signal immeasurable because of the high precision required in the measurement of the frequency at which the protons precess (Breiner, 1973). The precession signal may also be sharply degraded in the presence of large magnetic gradients (exceeding approximately 600 nT/m).

The magnetic field measured at any point on the Earth's surface undergoes low-frequency diurnal variation, called magnetic drift, associated with the Earth's rotation. The source of magnetic drift is mainly within the ionosphere, and its magnitude is sometimes large enough to introduce artificial trends in survey data. The G-856 base station magnetometer was used to record this drift for removal from the G-858G survey data during processing.

Applications of the magnetic method include delineating old waste sites and mapping unexploded ordnance (UXO), drums, tanks, pipes, abandoned wells, and buried metallic debris. The method also is useful in searching for magnetic ore bodies, delineating basement rock, and mapping subsurface geology characterized by volcanic or mafic rocks.

D.2.0 Frequency-Domain EM Induction Method

Frequency-domain electromagnetic induction equipment used during this investigation consisted of a Geonics EM31 terrain conductivity meter (EM31) coupled to an Omnidata DL720 digital data logger. The EM31 consists of a 12-foot-long plastic boom with a transmitter coil mounted at one end and a receiver coil at the other An alternating current is applied to the transmitter coil, causing the coil to radiate a primary EM field As described by Faraday's law of induction, this time-varying magnetic field generates eddy currents in conductive subsurface materials. These eddy currents have an associated secondary magnetic field with a strength and phase shift (relative to the primary field) that are dependent on the conductivity of the medium. The combined effect of the primary and secondary fields is measured by the receiver coil in-phase (in-phase) and 90 degrees out-of-phase (quadrature) with the primary field. Most geologic materials are poor conductors. Current flow through geologic materials takes place primarily in the pore fluids (Keller and Frischknecht, 1966), as such, conductivity is predominantly a function of soil type, porosity, permeability, pore fluid ion content, and degree of saturation. The EM31 is calibrated so that the out-of-phase component is converted to electrical conductivity in units of millisiemens per meter (mS/m) (McNeill, 1980), and the in-phase component is converted to parts per thousand (ppt) of the secondary field to the primary EM field. The in-phase component is a relative value that is generally set to zero over background materials at each site.

The depth of penetration for EM induction instruments depends on the transmitter/receiver separation and coil orientation (McNeill, 1980). The EM31 has an effective exploration depth of approximately 18 feet when operating in the vertical dipole mode (horizontal coils). In this mode, the maximum instrument response results from materials at a depth of approximately two-fifths the coil spacing (or, approximately 2 feet below ground surface with the instrument at the normal operating height of approximately 3 feet), providing that no large metallic features such as tanks, drums, pipes, and reinforced concrete are present. Single buried drums typically can be located to depths of approximately 5 feet, whereas clusters of drums can be located to significantly greater depths if background noise is limited or negligible. In the horizontal dipole mode (vertical coils), the EM31 has an effective exploration depth of approximately 9 feet and is most sensitive to materials immediately beneath the ground surface.

The EM31 generally must pass over or very near a buried metallic object to detect it Both the out-of-phase and in-phase components exhibit a characteristic anomaly over near-surface metallic conductors This anomaly consists of a narrow zone having strong negative amplitude

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centered over the target and a broader lobe of weaker, positive amplitude on either side of the target. For long, linear conductors such as pipelines, the characteristic anomaly is as described when the axis of the coil (instrument boom) is at an angle to the conductor. However, when the instrument boom is oriented parallel to the conductor, a positive amplitude anomaly is obtained.

The application of frequency-domain EM techniques includes mapping conductive groundwater contaminant plumes in very shallow aquifers, delineating oil brine pits, landfill boundaries and pits and trenches containing buried metallic and nonmetallic debris, and locating buried pipes, cables, drums, and tanks

D.3.0 Time-Domain EM Induction Method

Time-domain electromagnetic induction equipment used during this investigation consisted of a Geonics EM61 high-resolution metal detector (EM61) coupled to an Omnidata DL720 digital data logger The EM61 consists of one transmitter and two receiver coils each 1-meter square. The transmitter and one receiver coil are co-incident within the instrument, the second receiver coil is separated by 0.5 meters (m) Comparison of the readings in the two receiver coils allows for discrimination between shallow and deeply buried metal objects. In operation, a pulse of current in the transmitter coil generates a primary magnetic field that induces eddy currents in nearby metallic conductors, as described by Faraday's law of induction. These eddy currents produce secondary magnetic fields that are measured by the time-dependant, decaying voltage they produce in the receiver coils. The internal electronics of the EM61 are designed such that readings are taken in a very narrow time window following transmitter turn-off. The measurement secondary fields in the absence of a primary field allows for the high sensitivity meaurements obtained with the system. Since the current ring diffuses down and outward, readings taken immediately after current shut-off are most affected by near-surface conditions and the later readings by the electrical properties of the deeper subsurface.

The EM61 is generally adjusted in the field to have a zero millivolts (mV) response over background conditions.

The EM61 depth of penetration depends primarily on the size of the target, and to a lessor degree on the type of metal (Geonics, 1997) The EM61 has an effective exploration depth in excess of 10 feet for locating large conductive features, such as tanks.

The EM61 generally must pass over, or very, near a buried metallic object to detect it. The EM61 characteristic anomaly consists of readings elevated 10 to 20 mV above background for small conductors and up to several thousand mV for large conductors, such as tanks. For mapping long, linear conductors, the EM61 data is most useful when measurements are taken perpendicular to the orientation of the conductor.

The application of near-surface time-domain EM techniques with instruments such as the EM61, includes detecting and mapping metallic objects (buried pipes, cables, drums, and tanks), and mapping the boundaries of landfill, pits or trenches containing buried metallic debris.

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D.4.0 References

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Keller, G. V. and F. C. Frischknecht, 1966, ***Electrical Methods in Geophysical Prospecting,*** International Series in Electromagnetic Waves, Volume 10, Pergamon Press, Oxford, England.

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Sheriff, R. E., 1991, ***Encyclopedic Dictionary of Exploration Geophysics,*** Society of Exploration Geophysicists, Tulsa, Oklahoma

Telford, W. M., L. P Geldart, R. E. Sheriff, and D A Keys, 1976, ***Applied Geophysics,*** Cambridge University Press, Cambridge, England.

Ulriksen, C. P. F., 1982, ***Application of Impulse Radar to Civil Engineering***, Department of Engineering Geology, Lund University of Technology, Sweden.

TAB

APPENDIX D: SURVEY DATA

APPENDIX D

SURVEY DATA

AOC 19 Site Investigation Survey Points

HydroGeoLogic, Inc.
Prime Contract No. F41624-95-D-8005
Delivery Order No. 26

Subcontractor:
Baird, Hampton, Brown, Inc.

LOCATION	NORTHING	EASTING	GROUND ELEVATION	RIM ELEVATION	DESCRIPTION
BHGLAOC1901	6963046.00	2296012.77	604.11		Boring
BHGLAOC1902	6963004 26	2296068.64	601 90		Boring
BHGLAOC1903	6962822.45	2296067 10	598 80		Boring
BHGLAOC1904	6962771.02	2296001 22	599.62		Boring
BHGLAOC1905	6962878.146	2295904.4	601.995		Boring
BHGLAOC1906	6962761.843	2295999.03	599.593		Boring
BHGLAOC1907	6963045.976	2296012.44	604.084		Boring
BHGLAOC1908	6962977.164	2295949 6	603.08		Boring
BHGLAOC1909	6963052 561	2295993.92	606.541		Boring
BHGLAOC1910	6963080.138	2295977.25	612.536		Boring
BHGLAOC1911	6963066.96	2296003.74	606.64		Boring
BHGLAOC1912	6963113.19	2296037.66	611.10		Boring
BHGLAOC1913	6962755.91	2295995.23	599.54		Boring
THGLAOC1901A	6962827.984	2296060.22	599.157		Exploratory Excavation
THGLAOC1901B	6962822.256	2296060.09	598 923		Exploratory Excavation
THGLAOC1901C	6962822 503	2296064.91	598.905		Exploratory Excavation
THGLAOC1901D	6962828.711	2296065.08	599.09		Exploratory Excavation
THGLAOC1902A	6962804.601	2295958.24	600.356		Exploratory Excavation
THGLAOC1902B	6962794 309	2295957.2	600.522		Exploratory Excavation
THGLAOC1902C	6962792.534	2295972.45	599.863		Exploratory Excavation
THGLAOC1902D	6962801.215	2295972 6	599.948		Exploratory Excavation
THGLAOC1903A	6962801.471	2295927.57	600.846		Exploratory Excavation
THGLAOC1903B	6962794.982	2295927 83	600.617		Exploratory Excavation
THGLAOC1903C	6962793.89	2295939.11	600.341		Exploratory Excavation
THGLAOC1903D	6962801.87	2295938.04	600.569		Exploratory Excavation
THGLAOC1904A	6963002 676	2295961.44	603.789		Exploratory Excavation
THGLAOC1904B	6962993.997	2295958.32	603.498		Exploratory Excavation
THGLAOC1904C	6962987.722	2295971.89	603.057		Exploratory Excavation
THGLAOC1904D	6962997.141	2295975 24	603.162		Exploratory Excavation
THGLAOC1905A	6963048.419	2296001.75	604.2		Exploratory Excavation
THGLAOC1905B	6963063.039	2296011.86	605.034		Exploratory Excavation
THGLAOC1905C	6963075.995	2295999.69	609.063		Exploratory Excavation
THGLAOC1905D	6963060.529	2295988.61	608.708		Exploratory Excavation
WHGLTA050	6963013.36	2296420.09	599.19	599.08	Monitoring Well
WHGLTA051	6962894.90	2296247.12	598.37	598.30	Monitoring Well
WHGLTA052	6962769.45	2296098.07	597.12	597 00	Monitoring Well

TAB

APPENDIX E

APPENDIX E

ANALYTICAL DATA SUMMARY TABLES

NOTES FOR TABLES E.1 AND E.2

Sample date format: "YYYY-MM-DD"

F = The analyte was detected, but the associated numerical value is a concentration below the reporting limit.

J = The analyte was detected; the associated numerical value is an estimated concentration.

R = The data are unusable due to QC deficiencies.

U = The analyte was not detected. The associated value is the reporting limit.

UJ = The analyte was not detected. The associated value is the reporting limit, which may be inaccurate due to associated QC deficiencies.

NA = Not analyzed

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TABLES

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 00 ft 2000-05-12	BHGLAOC1901 00 ft 2000-05-26	BHGLAOC1901 05 ft 2000-05-12	BHGLAOC1901 05 ft 2000-05-26
SW6010B	Arsenic	mg/kg	4.9 F	NA	4 4 F	NA
SW6010B	Barium	mg/kg	44.6	NA	80 9	NA
SW6010B	Beryllium	mg/kg	0 84	NA	0.6 U	NA
SW6010B	Cadmium	mg/kg	0.54 U	NA	0.07 F	NA
SW6010B	Chromium, total	mg/kg	12.8	NA	12.8	NA
SW6010B	Cobalt	mg/kg	4.6 F	NA	5.2 F	NA
SW6010B	Copper	mg/kg	7.4 F	NA	5 3 F	NA
SW6010B	Nickel	mg/kg	10 F	NA	11.1	NA
SW6010B	Tin	mg/kg	1 2 F	NA	1.6 F	NA
SW6010B	Vanadium	mg/kg	31 1 F	NA	29.5 F	NA
SW6010B	Zinc	mg/kg	22 7 F	NA	21 F	NA
SW7041	Antimony	mg/kg	0.56 UJ	NA	0.51 UJ	NA
SW7421	Lead	mg/kg	14.9 F	NA	8.8	NA
SW7471A	Mercury	mg/kg	0 04 U	NA	0.04 U	NA
SW7740	Selenium	mg/kg	0 34 UJ	NA	1.5 U	NA
SW7761	Silver	mg/kg	0 22 UJ	NA	0.2 UJ	NA
SW7841	Thallium	mg/kg	1.1 U	NA	1 UJ	NA
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	NA	0.002 U	NA	0.003 U
SW8260B	1,1,1-Trichloroethane	mg/kg	NA	0.003 U	NA	0.004 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	NA	0.002 UJ	NA	0.002 U
SW8260B	1,1,2-Trichloroethane	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	1,1-Dichloroethane	mg/kg	NA	0.002 U	NA	0.002 U
SW8260B	1,1-Dichloroethene	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	1,2,3-Trichloropropane	mg/kg	NA	0.004 UJ	NA	0.004 U
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	NA	0.004 UJ	NA	0.004 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	NA	0.002 U	NA	0.003 U
SW8260B	1,2-Dichloroethane	mg/kg	NA	0.002 U	NA	0.003 U
SW8260B	1,2-Dichloropropane	mg/kg	NA	0.002 U	NA	0.002 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	2-Hexanone	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Acetone	mg/kg	NA	0 004 U	NA	0.004 U
SW8260B	Acetonitrile	mg/kg	NA	0.033 U	NA	0.037 U
SW8260B	Acrolein	mg/kg	NA	0.082 U	NA	0.092 U
SW8260B	Acrylonitrile	mg/kg	NA	0.033 U	NA	0.037 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 00 ft 2000-05-12	BHGLAOC1901 00 ft 2000-05-26	BHGLAOC1901 05 ft 2000-05-12	BHGLAOC1901 05 ft 2000-05-26
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	NA	0.008 U	NA	0.009 U
SW8260B	Benzene	mg/kg	NA	0.002 U	NA	0.002 U
SW8260B	Bromodichloromethane	mg/kg	NA	0.003 U	NA	0.004 U
SW8260B	Bromoform	mg/kg	NA	0 004 U	NA	0.004 U
SW8260B	Bromomethane	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Carbon disulfide	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Carbon tetrachloride	mg/kg	NA	0 004 U	NA	0.004 U
SW8260B	Chlorobenzene	mg/kg	NA	0 002 U	NA	0.002 U
SW8260B	Chloroethane	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Chloroform	mg/kg	NA	0.002 U	NA	0.002 U
SW8260B	Chloromethane	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	NA	0 004 U	NA	0.004 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Dibromochloromethane	mg/kg	NA	0.002 U	NA	0.003 U
SW8260B	Dibromomethane	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Dichlorodifluoromethane	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Ethyl methacrylate	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Ethylbenzene	mg/kg	NA	0.002 U	NA	0.003 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Isobutanol	mg/kg	NA	0.16 U	NA	0.18 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	NA	0 004 U	NA	0.004 U
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	NA	0 004 U	NA	0 004 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	NA	0 004 U	NA	0 004 U
SW8260B	Methyl methacrylate	mg/kg	NA	0 004 U	NA	0.004 U
SW8260B	Methylacrylonitrile	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Methylene chloride	mg/kg	NA	0.002 U	NA	0.002 U
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	NA	0 004 U	NA	0.004 U
SW8260B	Pentachloroethane	mg/kg	NA	0.004 UJ	NA	0.004 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	NA	0.016 U	NA	0.018 U
SW8260B	Styrene	mg/kg	NA	0.002 U	NA	0.002 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Tetrachloroethene (PCE)	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Toluene	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	NA	0.002 U	NA	0.003 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 00 ft 2000-05-12	BHGLAOC1901 00 ft 2000-05-26	BHGLAOC1901 05 ft 2000-05-12	BHGLAOC1901 05 ft 2000-05-26
SW8260B	Trans-1,3-Dichloropropene	mg/kg	NA	0.004 U	NA	0.004 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	NA	0 004 U	NA	0.004 U
SW8260B	Trichloroethene (TCE)	mg/kg	NA	0.004 U	NA	0.004 F
SW8260B	Trichlorofluoromethane	mg/kg	NA	0.003 U	NA	0.004 U
SW8260B	Vinyl acetate	mg/kg	NA	0.004 U	NA	0 004 U
SW8260B	Vinyl chloride	mg/kg	NA	0 004 U	NA	0 004 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	1,2-Dichlorobenzene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	1,3,5-Trinitrobenzene	mg/kg	1.6 U	NA	1.5 U	NA
SW8270C	1,3-Dichlorobenzene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	1,3-Dinitrobenzene	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	1,4-Dichlorobenzene	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	1.6 U	NA	1.5 U	NA
SW8270C	1,4-Naphthoquinone	mg/kg	2 R	NA	1 9 R	NA
SW8270C	1-Naphthylamine	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	2,4,5-Trichlorophenol	mg/kg	2 U	NA	1.9 U	NA
SW8270C	2,4,6-Trichlorophenol	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	2,4-Dichlorophenol	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	2,4-Dimethylphenol	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	2,4-Dinitrophenol	mg/kg	2 R	NA	1.9 R	NA
SW8270C	2,4-Dinitrotoluene	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	2,6-Dichlorophenol	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	2,6-Dinitrotoluene	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	2-Acetylaminofluorene	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	2-Aminonaphthalene (beta-Naphthylamine)	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	2-Chloronaphthalene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	2-Chlorophenol	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	2-Methylnaphthalene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	2-Nitroaniline	mg/kg	2 U	NA	1.9 U	NA
SW8270C	2-Nitrophenol	mg/kg	0.39 U	NA	0.38 U	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 00 ft 2000-05-12	BHGLAOC1901 00 ft 2000-05-26	BHGLAOC1901 05 ft 2000-05-12	BHGLAOC1901 05 ft 2000-05-26
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0 79 U	NA	0.76 U	NA
SW8270C	3,3'-Dimethylbenzidine	mg/kg	2 U	NA	1.9 U	NA
SW8270C	3-Methylcholanthrene	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	3-Nitroaniline	mg/kg	2 U	NA	1.9 U	NA
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	2 U	NA	1.9 U	NA
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	4-Chloro-3-methylphenol	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	4-Chloroaniline	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	4-Methylphenol (P-Cresol)	mg/kg	NA	NA	NA	NA
SW8270C	4-Nitroaniline	mg/kg	2 U	NA	1.9 U	NA
SW8270C	4-Nitrophenol	mg/kg	2 U	NA	1.9 U	NA
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	2 R	NA	1.9 R	NA
SW8270C	5-Nitro-o-toluidine	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	Acenaphthene	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	Acenaphthylene	mg/kg	0 39 U	NA	0 38 U	NA
SW8270C	Acetophenone	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	2 U	NA	1.9 U	NA
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Anthracene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Aramite (total)	mg/kg	0.79 U	NA	0 76 U	NA
SW8270C	Benzo(a)anthracene	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	Benzo(a)pyrene	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	Benzo(b)fluoranthene	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	Benzo(g,h,i)perylene	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	Benzo(k)fluoranthene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Benzoic acid	mg/kg	2 U	NA	1.9 U	NA
SW8270C	Benzyl alcohol	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Benzyl butyl phthalate	mg/kg	0 28 F	NA	0.38 U	NA
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0 39 U	NA	0 38 U	NA

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 00 ft 2000-05-12	BHGLAOC1901 00 ft 2000-05-26	BHGLAOC1901 05 ft 2000-05-12	BHGLAOC1901 05 ft 2000-05-26
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Chlorobenzilate	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Chrysene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Cresols, m & p	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Dibenz(a,h)anthracene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Dibenzofuran	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Diethyl phthalate	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	Dimethyl phthalate	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	Di-n-butyl phthalate	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Di-n-octyl phthalate	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Dinoseb	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	Diphenylamine	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Ethyl methanesulfonate	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	Fluoranthene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Fluorene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Hexachlorobenzene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Hexachlorobutadiene	mg/kg	0 39 U	NA	0 38 U	NA
SW8270C	Hexachlorocyclopentadiene	mg/kg	0 39 U	NA	0 38 U	NA
SW8270C	Hexachloroethane	mg/kg	0.39 R	NA	0.38 R	NA
SW8270C	Hexachlorophene	mg/kg	5.9 R	NA	5.7 R	NA
SW8270C	Hexachloropropene	mg/kg	2 U	NA	1 9 U	NA
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	Isophorone	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	Isosafrole	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	Methapyrilene	mg/kg	2 U	NA	1.9 U	NA
SW8270C	Methyl methanesulfonate	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	Naphthalene	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	Nitrobenzene	mg/kg	0 39 U	NA	0.38 U	NA
SW8270C	N-Nitrosodiethylamine	mg/kg	0 79 U	NA	0.76 U	NA
SW8270C	N-Nitrosodimethylamine	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0.39 U	NA	0 38 U	NA

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 00 ft 2000-05-12	BHGLAOC1901 00 ft 2000-05-26	BHGLAOC1901 05 ft 2000-05-12	BHGLAOC1901 05 ft 2000-05-26
SW8270C	N-Nitrosodiphenylamine	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	N-Nitrosomethylethylamine	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	N-Nitrosomorpholine	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	N-Nitrosopiperidine	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	N-Nitrosopyrrolidine	mg/kg	2 U	NA	1.9 U	NA
SW8270C	o-Toluidine	mg/kg	0 39 U	NA	0 38 U	NA
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	Pentachlorobenzene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Pentachloronitrobenzene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Pentachlorophenol	mg/kg	2 U	NA	1 9 U	NA
SW8270C	Phenacetin	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	Phenanthrene	mg/kg	0.39 U	NA	0.38 U	NA
SW8270C	Phenol	mg/kg	0 39 U	NA	0 38 U	NA
SW8270C	p-Phenylenediamine	mg/kg	1.6 U	NA	1.5 U	NA
SW8270C	Pronamide	mg/kg	0 79 U	NA	0 76 U	NA
SW8270C	Pyrene	mg/kg	0.39 U	NA	0 38 U	NA
SW8270C	Pyridine	mg/kg	0.79 U	NA	0.76 U	NA
SW8270C	Safrole	mg/kg	0.39 U	NA	0.38 U	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 10 ft 2000-05-12	BHGLAOC1901 10 ft 2000-05-26	BHGLAOC1902 00 ft 2000-05-15	BHGLAOC1902 05 ft 2000-05-15
SW6010B	Arsenic	mg/kg	6 7	NA	4.9	5.5
SW6010B	Barium	mg/kg	33.3 F	NA	75 J	62 J
SW6010B	Beryllium	mg/kg	0 31 U	NA	1	0.35 J
SW6010B	Cadmium	mg/kg	0.13 F	NA	0.24 F	0.26 F
SW6010B	Chromium, total	mg/kg	7.4 F	NA	20 3 J	10.5 J
SW6010B	Cobalt	mg/kg	2 9 F	NA	5 5 F	3.9 F
SW6010B	Copper	mg/kg	4.2 F	NA	10.5	4.1 F
SW6010B	Nickel	mg/kg	7.6 F	NA	13.2 J	7.9 F
SW6010B	Tin	mg/kg	1 F	NA	9.1 UJ	8 2 UJ
SW6010B	Vanadium	mg/kg	22.6 F	NA	36.8 J	28.9 J
SW6010B	Zinc	mg/kg	9 8 F	NA	36.2	13.5 F
SW7041	Antimony	mg/kg	0.43 UJ	NA	0.53 UJ	0.48 UJ
SW7421	Lead	mg/kg	4.7	NA	10.4	4.9
SW7471A	Mercury	mg/kg	0.04 U	NA	0.04 U	0 03 U
SW7740	Selenium	mg/kg	1.3 U	NA	0 32 UJ	1 4 UJ
SW7761	Silver	mg/kg	0.17 UJ	NA	0 21 UJ	0 19 UJ
SW7841	Thallium	mg/kg	0.86 UJ	NA	1.1 U	4.8 UJ
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	NA	0.002 U	0.003 U	0.003 U
SW8260B	1,1,1-Trichloroethane	mg/kg	NA	0.003 U	0 004 U	0.004 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	NA	0.002 U	0 002 UJ	0.002 U
SW8260B	1,1,2-Trichloroethane	mg/kg	NA	0.004 U	0.005 U	0 004 U
SW8260B	1,1-Dichloroethane	mg/kg	NA	0 002 U	0.002 U	0 002 U
SW8260B	1,1-Dichloroethene	mg/kg	NA	0 004 U	0.005 U	0 004 U
SW8260B	1,2,3-Trichloropropane	mg/kg	NA	0.004 U	0.005 UJ	0.004 U
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	NA	0.004 U	0 005 UJ	0 004 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	NA	0.002 U	0 003 U	0 003 U
SW8260B	1,2-Dichloroethane	mg/kg	NA	0.002 U	0 003 U	0.003 U
SW8260B	1,2-Dichloropropane	mg/kg	NA	0 002 U	0.002 U	0 002 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	NA	0.004 U	0 005 U	0.004 U
SW8260B	2-Hexanone	mg/kg	NA	0.004 U	0 005 U	0 004 U
SW8260B	Acetone	mg/kg	NA	0 004 U	0.005 U	0.004 U
SW8260B	Acetonitrile	mg/kg	NA	0 032 U	0.04 U	0.036 U
SW8260B	Acrolein	mg/kg	NA	0.079 U	0 1 U	0.089 U
SW8260B	Acrylonitrile	mg/kg	NA	0 032 U	0.04 U	0.036 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 10 ft 2000-05-12	BHGLAOC1901 10 ft 2000-05-26	BHGLAOC1902 00 ft 2000-05-15	BHGLAOC1902 05 ft 2000-05-15
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	NA	0.008 U	0.01 U	0.009 U
SW8260B	Benzene	mg/kg	NA	0.002 U	0.002 U	0.002 U
SW8260B	Bromodichloromethane	mg/kg	NA	0.003 U	0.004 U	0.004 U
SW8260B	Bromoform	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Bromomethane	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Carbon disulfide	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Carbon tetrachloride	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Chlorobenzene	mg/kg	NA	0.002 U	0.002 U	0.002 U
SW8260B	Chloroethane	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Chloroform	mg/kg	NA	0.002 U	0.002 U	0.002 U
SW8260B	Chloromethane	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	NA	0.005	0.005 U	0.004 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Dibromochloromethane	mg/kg	NA	0.002 U	0.003 U	0.003 U
SW8260B	Dibromomethane	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Dichlorodifluoromethane	mg/kg	NA	0.004 U	0.006 U	0.004 U
SW8260B	Ethyl methacrylate	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Ethylbenzene	mg/kg	NA	0.002 U	0.003 U	0.003 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Isobutanol	mg/kg	NA	0.16 U	0.2 U	0.18 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Methyl methacrylate	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Methylacrylonitrile	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Methylene chloride	mg/kg	NA	0.002 U	0.002 U	0.002 U
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Pentachloroethane	mg/kg	NA	0.004 U	0.01 UJ	0.004 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	NA	0.016 U	0.02 U	0.018 U
SW8260B	Styrene	mg/kg	NA	0.002 U	0.002 U	0.002 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Tetrachloroethene (PCE)	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Toluene	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	NA	0.002 U	0.003 U	0.003 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 10 ft 2000-05-12	BHGLAOC1901 10 ft 2000-05-26	BHGLAOC1902 00 ft 2000-05-15	BHGLAOC1902 05 ft 2000-05-15
SW8260B	Trans-1,3-Dichloropropene	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Trichloroethene (TCE)	mg/kg	NA	0.019	0.019	0.008
SW8260B	Trichlorofluoromethane	mg/kg	NA	0.003 U	0.004 U	0.004 U
SW8260B	Vinyl acetate	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8260B	Vinyl chloride	mg/kg	NA	0.004 U	0.005 U	0.004 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	1,2-Dichlorobenzene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	1.4 U	NA	1.5 U	1.4 U
SW8270C	1,3-Dichlorobenzene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	1,3-Dinitrobenzene	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	1,4-Dichlorobenzene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	1.4 U	NA	1.5 U	1.4 U
SW8270C	1,4-Naphthoquinone	mg/kg	1.8 R	NA	1.9 R	1.8 R
SW8270C	1-Naphthylamine	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	1.8 U	NA	1.9 U	1.8 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2,4-Dichlorophenol	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2,4-Dimethylphenol	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2,4-Dinitrophenol	mg/kg	1.8 R	NA	1.9 U	1.8 U
SW8270C	2,4-Dinitrotoluene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2,6-Dichlorophenol	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2,6-Dinitrotoluene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2-Acetylaminofluorene	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	2-Aminonaphthalene (beta-Naphthylamine)	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	2-Chloronaphthalene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2-Chlorophenol	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2-Methylnaphthalene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	2-Nitroaniline	mg/kg	1.8 U	NA	1.9 U	1.8 U
SW8270C	2-Nitrophenol	mg/kg	0.35 U	NA	0.38 U	0.35 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 10 ft 2000-05-12	BHGLAOC1901 10 ft 2000-05-26	BHGLAOC1902 00 ft 2000-05-15	BHGLAOC1902 05 ft 2000-05-15
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0.35 U	NA	0.38 U	0 35 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0 7 U	NA	0.76 U	0.7 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	1 8 U	NA	1 9 U	1.8 U
SW8270C	3-Methylcholanthrene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	3-Nitroaniline	mg/kg	1.8 U	NA	1.9 U	1.8 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	1.8 U	NA	1.9 U	1.8 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0.7 U	NA	0.76 U	0 7 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0 35 U	NA	0 38 U	0.35 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	0.35 U	NA	0.38 U	0 35 U
SW8270C	4-Chloroaniline	mg/kg	0.35 U	NA	0.38 U	0 35 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0.35 U	NA	0.38 U	0 35 U
SW8270C	4-Methylphenol (P-Cresol)	mg/kg	NA	NA	NA	NA
SW8270C	4-Nitroaniline	mg/kg	1.8 U	NA	1 9 U	1.8 U
SW8270C	4-Nitrophenol	mg/kg	1 8 U	NA	1.9 U	1.8 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	1 8 R	NA	1.9 R	1.8 R
SW8270C	5-Nitro-o-toluidine	mg/kg	0 7 U	NA	0.76 U	0.7 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0.7 U	NA	0.76 U	0 7 U
SW8270C	Acenaphthene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Acenaphthylene	mg/kg	0.35 U	NA	0 38 U	0.35 U
SW8270C	Acetophenone	mg/kg	0.35 U	NA	0 38 U	0.35 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	1 8 U	NA	1.9 U	1.8 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Anthracene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Aramite (total)	mg/kg	0.7 U	NA	0 76 U	0.7 U
SW8270C	Benzo(a)anthracene	mg/kg	0.35 U	NA	0 38 U	0.35 U
SW8270C	Benzo(a)pyrene	mg/kg	0 35 U	NA	0.38 U	0.35 U
SW8270C	Benzo(b)fluoranthene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Benzo(g,h,i)perylene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Benzo(k)fluoranthene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Benzoic acid	mg/kg	1.8 U	NA	1.9 U	1.8 U
SW8270C	Benzyl alcohol	mg/kg	0.35 U	NA	0 38 U	0.35 U
SW8270C	Benzyl butyl phthalate	mg/kg	0 35 U	NA	0.38 U	0.35 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0 35 U	NA	0.38 U	0 35 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 10 ft 2000-05-12	BHGLAOC1901 10 ft 2000-05-26	BHGLAOC1902 00 ft 2000-05-15	BHGLAOC1902 05 ft 2000-05-15
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Chlorobenzilate	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Chrysene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Cresols, m & p	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Dibenzofuran	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Diethyl phthalate	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Dimethyl phthalate	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Di-n-butyl phthalate	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Di-n-octyl phthalate	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Dinoseb	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	Diphenylamine	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Ethyl methanesulfonate	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Fluoranthene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Fluorene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Hexachlorobenzene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Hexachlorobutadiene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Hexachloroethane	mg/kg	0.35 R	NA	0.38 U	0.35 U
SW8270C	Hexachlorophene	mg/kg	5.3 R	NA	5.7 R	5.3 R
SW8270C	Hexachloropropene	mg/kg	1.8 U	NA	1.9 U	1.8 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Isophorone	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Isosafrole	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Methapyrilene	mg/kg	1.8 U	NA	1.9 U	1.8 U
SW8270C	Methyl methanesulfonate	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	Naphthalene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Nitrobenzene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	N-Nitrosodiethylamine	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	N-Nitrosodimethylamine	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0.35 U	NA	0.38 U	0.35 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1901 10 ft 2000-05-12	BHGLAOC1901 10 ft 2000-05-26	BHGLAOC1902 00 ft 2000-05-15	BHGLAOC1902 05 ft 2000-05-15
SW8270C	N-Nitrosodiphenylamine	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	0.7 U	NA	0 76 U	0 7 U
SW8270C	N-Nitrosomorpholine	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	N-Nitrosopiperidine	mg/kg	0.35 U	NA	0 38 U	0.35 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	1.8 U	NA	1 9 U	1 8 U
SW8270C	o-Toluidine	mg/kg	0 35 U	NA	0 38 U	0.35 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	Pentachlorobenzene	mg/kg	0 35 U	NA	0.38 U	0 35 U
SW8270C	Pentachloronitrobenzene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Pentachlorophenol	mg/kg	1.8 U	NA	1.9 U	1.8 U
SW8270C	Phenacetin	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	Phenanthrene	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	Phenol	mg/kg	0.35 U	NA	0.38 U	0.35 U
SW8270C	p-Phenylenediamine	mg/kg	1.4 U	NA	1.5 U	1.4 U
SW8270C	Pronamide	mg/kg	0.7 U	NA	0.76 U	0.7 U
SW8270C	Pyrene	mg/kg	0.35 U	NA	0.38 U	0 35 U
SW8270C	Pyridine	mg/kg	0.7 U	NA	0 76 R	0.7 R
SW8270C	Safrole	mg/kg	0 35 U	NA	0.38 U	0.35 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1903 00 ft 2000-05-15	BHGLAOC1903 00 ft 2000-05-15 Dup	BHGLAOC1903 05 ft 2000-05-15	BHGLAOC1904 00 ft 2000-05-15
SW6010B	Arsenic	mg/kg	3 F	4	2.5 F	2.8 F
SW6010B	Barium	mg/kg	66.1 J	70 5 J	45.3 J	81.1 J
SW6010B	Beryllium	mg/kg	0 44 J	0 84	0.38 J	0 6
SW6010B	Cadmium	mg/kg	0.21 F	0.29 F	0 18 F	0.27 F
SW6010B	Chromium, total	mg/kg	12 8 J	14.9 J	10.3 J	13.1 J
SW6010B	Cobalt	mg/kg	3.3 F	4.9	2 F	3 F
SW6010B	Copper	mg/kg	5 4 F	10.2	3 8 F	5.7 F
SW6010B	Nickel	mg/kg	8 1 F	10.7 J	6 7 F	8 J
SW6010B	Tin	mg/kg	8.9 UJ	7.9 UJ	8 4 UJ	6.8 UJ
SW6010B	Vanadium	mg/kg	26.5 F	29.1 J	27 J	25.5 J
SW6010B	Zinc	mg/kg	17.2 F	26 2 J	13.5 F	17 7 F
SW7041	Antimony	mg/kg	0 47 UJ	0 52 UJ	0 43 UJ	0.48 UJ
SW7421	Lead	mg/kg	5.6	8.9	5.9	6.9 J
SW7471A	Mercury	mg/kg	0.04 U	0.04 U	0 04 U	0 04 U
SW7740	Selenium	mg/kg	1.4 UJ	1.6 UJ	1.3 UJ	1.4 UJ
SW7761	Silver	mg/kg	0.19 UJ	0.21 UJ	0.17 UJ	0.19 UJ
SW7841	Thallium	mg/kg	4.7 U	1 UJ	4.3 U	4.8 U
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	0.003 U	0 U	0.002 U	0.003 U
SW8260B	1,1,1-Trichloroethane	mg/kg	0.004 U	0.004 U	0 003 U	0.004 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	0 002 U	0.002 U	0.002 U	0.002 U
SW8260B	1,1,2-Trichloroethane	mg/kg	0 004 U	0 005 U	0.004 U	0.005 U
SW8260B	1,1-Dichloroethane	mg/kg	0.002 U	0 002 U	0.002 U	0.002 U
SW8260B	1,1-Dichloroethene	mg/kg	0.004 U	0 005 U	0.004 U	0.005 U
SW8260B	1,2,3-Trichloropropane	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.003 U	0.003 U	0.002 U	0.003 U
SW8260B	1,2-Dichloroethane	mg/kg	0.003 U	0.003 U	0.002 U	0 003 U
SW8260B	1,2-Dichloropropane	mg/kg	0.002 U	0.002 U	0.002 U	0 002 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	2-Hexanone	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Acetone	mg/kg	0 008 U	0 005 U	0.004 U	0.005 U
SW8260B	Acetonitrile	mg/kg	0.036 U	0.04 U	0.034 U	0.04 U
SW8260B	Acrolein	mg/kg	0 089 U	0.1 U	0.084 U	0.1 U
SW8260B	Acrylonitrile	mg/kg	0.036 U	0.04 U	0.034 U	0 04 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1903 00 ft 2000-05-15	BHGLAOC1903 00 ft 2000-05-15 Dup.	BHGLAOC1903 05 ft 2000-05-15	BHGLAOC1904 00 ft 2000-05-15
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	0.009 U	0.01 U	0.008 U	0.01 U
SW8260B	Benzene	mg/kg	0.002 U	0.002 U	0.002 U	0.002 U
SW8260B	Bromodichloromethane	mg/kg	0.004 U	0.004 U	0.003 U	0.004 U
SW8260B	Bromoform	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Bromomethane	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Carbon disulfide	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Carbon tetrachloride	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Chlorobenzene	mg/kg	0.002 U	0.002 U	0.002 U	0.002 U
SW8260B	Chloroethane	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Chloroform	mg/kg	0.002 U	0.002 U	0.002 U	0.002 U
SW8260B	Chloromethane	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Dibromochloromethane	mg/kg	0.003 U	0.003 U	0.002 U	0.003 U
SW8260B	Dibromomethane	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Dichlorodifluoromethane	mg/kg	0.004 U	0.005 R	0.004 U	0.005 R
SW8260B	Ethyl methacrylate	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Ethylbenzene	mg/kg	0.003 U	0.003 U	0.002 U	0.003 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Isobutanol	mg/kg	0.18 U	0.2 U	0.17 U	0.2 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Methyl methacrylate	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Methylacrylonitrile	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Methylene chloride	mg/kg	0.002 U	0.009 U	0.002 U	0.002 U
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Pentachloroethane	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	0.018 U	0.02 U	0.017 U	0.02 U
SW8260B	Styrene	mg/kg	0.002 U	0.002 U	0.002 U	0.002 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Tetrachloroethene (PCE)	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Toluene	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	0.003 U	0.003 U	0.002 U	0.003 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1903 00 ft 2000-05-15	BHGLAOC1903 00 ft 2000-05-15 Dup	BHGLAOC1903 05 ft 2000-05-15	BHGLAOC1904 00 ft 2000-05-15
SW8260B	Trans-1,3-Dichloropropene	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Trichloroethene (TCE)	mg/kg	0.004 U	0.005 U	0.005	0.005 J
SW8260B	Trichlorofluoromethane	mg/kg	0.004 U	0.004 U	0.003 U	0.004 U
SW8260B	Vinyl acetate	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8260B	Vinyl chloride	mg/kg	0.004 U	0.005 U	0.004 U	0.005 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	1,2-Dichlorobenzene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	1.4 U	1.5 U	1.5 U	1.5 U
SW8270C	1,3-Dichlorobenzene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	1,3-Dinitrobenzene	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	1,4-Dichlorobenzene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	1.4 U	1.5 U	1.5 U	1.5 U
SW8270C	1,4-Naphthoquinone	mg/kg	1.8 R	1.9 R	1.8 R	1.9 R
SW8270C	1-Naphthylamine	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2,4-Dichlorophenol	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2,4-Dimethylphenol	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2,4-Dinitrophenol	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	2,4-Dinitrotoluene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2,6-Dichlorophenol	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2,6-Dinitrotoluene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2-Acetylaminofluorene	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	2-Aminonaphthalene (beta-Naphthylamine)	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	2-Chloronaphthalene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2-Chlorophenol	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2-Methylnaphthalene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	2-Nitroaniline	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	2-Nitrophenol	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1903 00 ft 2000-05-15	BHGLAOC1903 00 ft 2000-05-15 Dup	BHGLAOC1903 05 ft 2000-05-15	BHGLAOC1904 00 ft 2000-05-15
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	3-Methylcholanthrene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	3-Nitroaniline	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	4-Chloroaniline	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	4-Methylphenol (P-Cresol)	mg/kg	NA	NA	NA	NA
SW8270C	4-Nitroaniline	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	4-Nitrophenol	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	1.8 R	1.9 R	1.8 R	1.9 R
SW8270C	5-Nitro-o-toluidine	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	Acenaphthene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Acenaphthylene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Acetophenone	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Anthracene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Aramite (total)	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	Benzo(a)anthracene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Benzo(a)pyrene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Benzo(b)fluoranthene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Benzo(g,h,i)perylene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Benzo(k)fluoranthene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Benzoic acid	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	Benzyl alcohol	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Benzyl butyl phthalate	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1903 00 ft 2000-05-15	BHGLAOC1903 00 ft 2000-05-15 Dup	BHGLAOC1903 05 ft 2000-05-15	BHGLAOC1904 00 ft 2000-05-15
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.35 U	0.37 U	0 36 U	0.37 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0.35 U	0 37 U	0.36 U	0.37 U
SW8270C	Chlorobenzilate	mg/kg	0 35 U	0.37 U	0 36 U	0 37 U
SW8270C	Chrysene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Cresols, m & p	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0.35 U	0 37 U	0 36 U	0.37 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Dibenzofuran	mg/kg	0.35 U	0 37 U	0.36 U	0.37 U
SW8270C	Diethyl phthalate	mg/kg	0 35 U	0.37 U	0 36 U	0.37 U
SW8270C	Dimethyl phthalate	mg/kg	0 35 U	0.37 U	0 36 U	0.37 U
SW8270C	Di-n-butyl phthalate	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Di-n-octyl phthalate	mg/kg	0.35 U	0 37 U	0.36 U	0.37 U
SW8270C	Dinoseb	mg/kg	0.71 U	0 74 U	0.73 U	0.75 U
SW8270C	Diphenylamine	mg/kg	0.35 U	0 37 U	0.36 U	0.37 U
SW8270C	Ethyl methanesulfonate	mg/kg	0 35 U	0.37 U	0 36 U	0.37 U
SW8270C	Fluoranthene	mg/kg	0 35 U	0.37 U	0 36 U	0.37 U
SW8270C	Fluorene	mg/kg	0.35 U	0.37 U	0 36 U	0.37 U
SW8270C	Hexachlorobenzene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Hexachlorobutadiene	mg/kg	0 35 U	0 37 U	0.36 U	0.37 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	0 35 U	0 37 U	0.36 U	0.37 U
SW8270C	Hexachloroethane	mg/kg	0.35 U	0.37 U	0 36 U	0.37 U
SW8270C	Hexachlorophene	mg/kg	5.3 R	5.6 R	5.5 R	5.6 R
SW8270C	Hexachloropropene	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0.35 U	0.37 U	0 36 U	0 37 U
SW8270C	Isophorone	mg/kg	0 35 U	0 37 U	0.36 U	0.37 U
SW8270C	Isosafrole	mg/kg	0 35 U	0.37 U	0.36 U	0.37 U
SW8270C	Methapyrilene	mg/kg	1.8 U	1.9 U	1.8 U	1 9 U
SW8270C	Methyl methanesulfonate	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	Naphthalene	mg/kg	0 35 U	0.37 U	0.36 U	0.37 U
SW8270C	Nitrobenzene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	N-Nitrosodiethylamine	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	N-Nitrosodimethylamine	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1903 00 ft 2000-05-15	BHGLAOC1903 00 ft 2000-05-15 Dup	BHGLAOC1903 05 ft 2000-05-15	BHGLAOC1904 00 ft 2000-05-15
SW8270C	N-Nitrosodiphenylamine	mg/kg	0 35 U	0.37 U	0 36 U	0.37 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	0.71 U	0.74 U	0.73 U	0 75 U
SW8270C	N-Nitrosomorpholine	mg/kg	0.71 U	0.74 U	0.73 U	0 75 U
SW8270C	N-Nitrosopiperidine	mg/kg	0.35 U	0.37 U	0.36 U	0 37 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	1 8 U	1.9 U	1.8 U	1.9 U
SW8270C	o-Toluidine	mg/kg	0 35 U	0.37 U	0.36 U	0.37 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0 71 U	0 74 U	0.73 U	0.75 U
SW8270C	Pentachlorobenzene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Pentachloronitrobenzene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Pentachlorophenol	mg/kg	1.8 U	1.9 U	1.8 U	1.9 U
SW8270C	Phenacetin	mg/kg	0 71 U	0.74 U	0.73 U	0.75 U
SW8270C	Phenanthrene	mg/kg	0.35 U	0.37 U	0 36 U	0.37 U
SW8270C	Phenol	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	p-Phenylenediamine	mg/kg	1.4 U	1 5 U	1.5 U	1.5 U
SW8270C	Pronamide	mg/kg	0.71 U	0.74 U	0.73 U	0.75 U
SW8270C	Pyrene	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U
SW8270C	Pyridine	mg/kg	0.71 R	0.74 R	0.73 R	0.75 R
SW8270C	Safrole	mg/kg	0.35 U	0.37 U	0.36 U	0.37 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1904 05 ft 2000-05-15	BHGLAOC1905 00 ft 2001-08-20	BHGLAOC1905 05 ft 2001-08-20	BHGLAOC1905 10 ft 2001-08-20
SW6010B	Arsenic	mg/kg	2.4 F	4.9	3.9 F	5.2
SW6010B	Barium	mg/kg	59.1 J	78.1	76.2	47.4
SW6010B	Beryllium	mg/kg	0.45 J	0.92	0 63	0.55
SW6010B	Cadmium	mg/kg	0.23 F	0 088 U	0.085 U	0.075 U
SW6010B	Chromium, total	mg/kg	11.8 J	16 3	12.3	11.8
SW6010B	Cobalt	mg/kg	3 F	5.3 F	2 F	2.9 F
SW6010B	Copper	mg/kg	5 1 F	10.9	5.2 F	5.4 F
SW6010B	Nickel	mg/kg	8.7 J	11.5	7.4 F	7 4 F
SW6010B	Tin	mg/kg	8 6 UJ	1.7 U	1.8 U	1 5 U
SW6010B	Vanadium	mg/kg	29.8 J	31 5	22 9 F	28.2
SW6010B	Zinc	mg/kg	16.2 F	27.3 U	16 3 U	13.9 U
SW7041	Antimony	mg/kg	0.47 UJ	0.23 UJ	0.21 UJ	0.17 UJ
SW7421	Lead	mg/kg	6.4	12.7	7.1	6.6
SW7471A	Mercury	mg/kg	0 03 U	0.0066 U	0 0062 U	0.0061 U
SW7740	Selenium	mg/kg	1 4 UJ	0.19 UJ	0.18 UJ	0.14 UJ
SW7761	Silver	mg/kg	0.19 UJ	0.08 UJ	0 075 UJ	0.059 UJ
SW7841	Thallium	mg/kg	4 7 UJ	0.23 UJ	0.21 UJ	0 17 UJ
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	0 002 U	0.0008 U	0.0006 U	0.0007 U
SW8260B	1,1,1-Trichloroethane	mg/kg	0.003 U	0.0007 U	0.0005 U	0.0006 U
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	0.002 U	0.0007 U	0 0006 U	0.0006 U
SW8260B	1,1,2-Trichloroethane	mg/kg	0.004 U	0.0008 U	0 0006 U	0 0007 U
SW8260B	1,1-Dichloroethane	mg/kg	0.002 U	0.001 U	0.0008 U	0.0008 U
SW8260B	1,1-Dichloroethene	mg/kg	0.004 U	0.001 U	0.0009 U	0 001 U
SW8260B	1,2,3-Trichloropropane	mg/kg	0.004 U	0.001 U	0.001 U	0 001 U
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	0.004 U	0.001 R	0.001 R	0.001 R
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.002 U	0.0008 U	0.0007 U	0.0007 U
SW8260B	1,2-Dichloroethane	mg/kg	0.002 U	0.0006 U	0.0005 U	0.0006 U
SW8260B	1,2-Dichloropropane	mg/kg	0.002 U	0 001 U	0.0008 U	0.0009 U
SW8260B	2-Chloro-1,3-butadiene	mg/kg	0.004 U	0.0007 U	0.0006 U	0.0006 U
SW8260B	2-Hexanone	mg/kg	0.004 U	0.002 U	0 001 U	0.002 U
SW8260B	Acetone	mg/kg	0.004 U	0.004 U	0.004 R	0.014 R
SW8260B	Acetonitrile	mg/kg	0.033 U	0.028 U	0 023 U	0.025 U
SW8260B	Acrolein	mg/kg	0 083 U	0.041 U	0 033 U	0.036 U
SW8260B	Acrylonitrile	mg/kg	0.033 U	0.008 U	0.006 U	0.007 U

Table E.1
Comprehensive Soil Results
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Method	Analyte	Unit	BHGLAOC1904 05 ft 2000-05-15	BHGLAOC1905 00 ft 2001-08-20	BHGLAOC1905 05 ft 2001-08-20	BHGLAOC1905 10 ft 2001-08-20
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	0.008 U	0 002 U	0 002 U	0.002 U
SW8260B	Benzene	mg/kg	0.002 U	0.0007 U	0.0006 U	0 0006 U
SW8260B	Bromodichloromethane	mg/kg	0.003 U	0.0007 U	0.0006 U	0 0006 U
SW8260B	Bromoform	mg/kg	0 004 U	0.001 U	0.0008 U	0.0009 U
SW8260B	Bromomethane	mg/kg	0.004 U	0.003 R	0.003 R	0.003 R
SW8260B	Carbon disulfide	mg/kg	0 004 U	0.002 U	0 002 U	0.002 U
SW8260B	Carbon tetrachloride	mg/kg	0.004 U	0 0009 U	0 0007 U	0.0008 U
SW8260B	Chlorobenzene	mg/kg	0.002 U	0.001 U	0 0008 U	0.0009 U
SW8260B	Chloroethane	mg/kg	0.004 U	0.002 R	0.001 U	0.002 U
SW8260B	Chloroform	mg/kg	0 002 U	0.0007 U	0 0005 U	0.0006 U
SW8260B	Chloromethane	mg/kg	0.004 U	0.001 R	0 0008 U	0.0009 U
SW8260B	cis-1,2-Dichloroethene	mg/kg	0.004 U	0.001 U	0.001 U	0.001 U
SW8260B	cis-1,3-Dichloropropene	mg/kg	0.004 U	0.0009 U	0.0007 U	0.0008 U
SW8260B	Dibromochloromethane	mg/kg	0.002 U	0.0008 U	0.0006 U	0.0007 U
SW8260B	Dibromomethane	mg/kg	0.004 U	0.0008 U	0.0006 U	0.0007 U
SW8260B	Dichlorodifluoromethane	mg/kg	0.004 R	0.0008 U	0.0007 U	0 0007 U
SW8260B	Ethyl methacrylate	mg/kg	0.004 U	0 002 U	0 001 U	0.001 U
SW8260B	Ethylbenzene	mg/kg	0.002 U	0 001 U	0 001 U	0.001 U
SW8260B	Iodomethane (Methyl iodide)	mg/kg	0.004 U	0.004 U	0 003 R	0.003 R
SW8260B	Isobutanol	mg/kg	0.16 U	0 092 U	0 073 U	0 08 U
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	0.004 U	0 002 U	0 002 U	0 002 U
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	0.004 U	0.005 U	0.004 U	0.004 U
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	0.004 U	0.003 U	0.003 U	0.003 U
SW8260B	Methyl methacrylate	mg/kg	0.004 U	0.002 U	0.002 U	0.002 U
SW8260B	Methylacrylonitrile	mg/kg	0 004 U	0.005 U	0.004 U	0.004 U
SW8260B	Methylene chloride	mg/kg	0 007 U	0.002 U	0.002 U	0.002 U
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	0 004 U	0.001 U	0.0008 U	0.0009 U
SW8260B	Pentachloroethane	mg/kg	0.004 U	0.006 R	0 005 U	0.005 U
SW8260B	Propane nitrile (Propionitrile)	mg/kg	0.016 U	0.021 U	0 017 U	0.018 U
SW8260B	Styrene	mg/kg	0.002 U	0 001 U	0 0009 U	0.001 U
SW8260B	Tert-Butyl Methyl Ether	mg/kg	0.004 U	0.0007 U	0 0006 U	0.0006 U
SW8260B	Tetrachloroethene (PCE)	mg/kg	0 004 U	0.0007 U	0.0006 U	0.0006 U
SW8260B	Toluene	mg/kg	0 004 U	0.001 U	0.0009 U	0.001 U
SW8260B	Trans-1,2-Dichloroethene	mg/kg	0.002 U	0.001 U	0.0008 U	0 0009 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1904 05 ft 2000-05-15	BHGLAOC1905 00 ft 2001-08-20	BHGLAOC1905 05 ft 2001-08-20	BHGLAOC1905 10 ft 2001-08-20
SW8260B	Trans-1,3-Dichloropropene	mg/kg	0.004 U	0 0009 U	0 0007 U	0 0008 U
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	0.004 U	0.002 U	0.002 U	0.002 U
SW8260B	Trichloroethene (TCE)	mg/kg	0 009	0.0006 U	0.006	0.0006 U
SW8260B	Trichlorofluoromethane	mg/kg	0.003 U	0.0008 U	0 0006 U	0.0007 U
SW8260B	Vinyl acetate	mg/kg	0.004 U	0.0006 U	0 0005 U	0.0005 U
SW8260B	Vinyl chloride	mg/kg	0.004 U	0.0008 U	0.0006 U	0.0007 U
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0.35 U	0 22 U	0.21 U	0.21 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0.35 U	0.059 U	0.055 U	0 056 U
SW8270C	1,2-Dichlorobenzene	mg/kg	0 35 U	0.1 U	0 096 U	0.098 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	1.4 U	0.89 U	0 82 U	0 84 U
SW8270C	1,3-Dichlorobenzene	mg/kg	0.35 U	0.11 U	0.1 U	0.11 U
SW8270C	1,3-Dinitrobenzene	mg/kg	0.7 U	0.41 U	0 38 U	0.38 U
SW8270C	1,4-Dichlorobenzene	mg/kg	0.35 U	0.09 U	0 083 U	0 084 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	1 4 U	0.98 U	0.9 U	0.92 U
SW8270C	1,4-Naphthoquinone	mg/kg	1 8 R	1.5 U	1.4 U	1.4 U
SW8270C	1-Naphthylamine	mg/kg	0.7 U	0 62 U	0 57 U	0.58 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0.35 U	0.21 U	0.19 U	0.2 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0.35 U	0.34 U	0.31 U	0.32 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	1.8 U	0.081 U	0.075 U	0.076 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	0.35 U	0.082 U	0.076 U	0.077 U
SW8270C	2,4-Dichlorophenol	mg/kg	0.35 U	0.069 U	0.064 U	0.065 U
SW8270C	2,4-Dimethylphenol	mg/kg	0 35 U	0.27 U	0 25 U	0.25 U
SW8270C	2,4-Dinitrophenol	mg/kg	1.8 U	0.24 U	0.22 U	0 22 U
SW8270C	2,4-Dinitrotoluene	mg/kg	0 35 U	0.09 U	0.083 U	0.084 U
SW8270C	2,6-Dichlorophenol	mg/kg	0.35 U	0.26 U	0.24 U	0.25 U
SW8270C	2,6-Dinitrotoluene	mg/kg	0.35 U	0.095 U	0.087 U	0.089 U
SW8270C	2-Acetylaminofluorene	mg/kg	0.7 U	0.65 U	0.6 U	0.61 U
SW8270C	2-Aminonaphthalene (beta-Naphthylamine)	mg/kg	0.7 U	0.63 U	0.58 U	0.59 U
SW8270C	2-Chloronaphthalene	mg/kg	0.35 U	0 066 U	0.06 U	0.061 U
SW8270C	2-Chlorophenol	mg/kg	0.35 U	0.084 U	0.077 U	0.078 U
SW8270C	2-Methylnaphthalene	mg/kg	0.35 U	0.29 U	0.27 U	0.27 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0.35 U	0.15 U	0.14 U	0.14 U
SW8270C	2-Nitroaniline	mg/kg	1.8 U	0.13 U	0.12 U	0.12 U
SW8270C	2-Nitrophenol	mg/kg	0 35 U	0.093 U	0 086 U	0.088 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1904 05 ft 2000-05-15	BHGLAOC1905 00 ft 2001-08-20	BHGLAOC1905 05 ft 2001-08-20	BHGLAOC1905 10 ft 2001-08-20
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0.35 U	0.27 U	0.25 U	0.26 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0.7 U	0.14 U	0.13 U	0.13 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	1.8 U	0.37 U	0.34 U	0.34 U
SW8270C	3-Methylcholanthrene	mg/kg	0.35 U	0.37 U	0.34 U	0.34 U
SW8270C	3-Nitroaniline	mg/kg	1.8 U	0.17 U	0.16 U	0.16 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	1.8 U	0.17 U	0.16 U	0.16 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0.7 U	0.35 U	0.32 U	0.32 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0.35 U	0.11 U	0.1 U	0.1 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	0.35 U	0.1 U	0.095 U	0.097 U
SW8270C	4-Chloroaniline	mg/kg	0.35 U	0.15 U	0.14 U	0.14 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0.35 U	0.11 U	0.097 U	0.099 U
SW8270C	4-Methylphenol (P-Cresol)	mg/kg	NA	NA	NA	NA
SW8270C	4-Nitroaniline	mg/kg	1.8 U	0.16 U	0.15 U	0.15 U
SW8270C	4-Nitrophenol	mg/kg	1.8 U	0.44 U	0.41 U	0.42 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	1.8 R	1.7 U	1.5 U	1.6 U
SW8270C	5-Nitro-o-toluidine	mg/kg	0.7 U	0.37 U	0.34 U	0.35 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0.7 U	0.56 U	0.52 U	0.53 U
SW8270C	Acenaphthene	mg/kg	0.35 U	0.064 U	0.059 U	0.06 U
SW8270C	Acenaphthylene	mg/kg	0.35 U	0.067 U	0.061 U	0.063 U
SW8270C	Acetophenone	mg/kg	0.35 U	0.34 U	0.31 U	0.32 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	1.8 U	1.8 U	1.6 U	1.7 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0.35 U	0.13 U	0.12 U	0.12 U
SW8270C	Anthracene	mg/kg	0.35 U	0.089 U	0.081 U	0.083 U
SW8270C	Aramite (total)	mg/kg	0.7 U	0.43 U	0.39 U	0.4 U
SW8270C	Benzo(a)anthracene	mg/kg	0.35 U	0.064 U	0.059 U	0.06 U
SW8270C	Benzo(a)pyrene	mg/kg	0.35 U	0.07 U	0.065 U	0.066 U
SW8270C	Benzo(b)fluoranthene	mg/kg	0.35 U	0.13 U	0.12 U	0.12 U
SW8270C	Benzo(g,h,i)perylene	mg/kg	0.35 U	0.18 U	0.17 U	0.17 U
SW8270C	Benzo(k)fluoranthene	mg/kg	0.35 U	0.14 U	0.13 U	0.13 U
SW8270C	Benzoic acid	mg/kg	1.8 U	0.21 U	0.19 U	0.19 U
SW8270C	Benzyl alcohol	mg/kg	0.35 U	0.12 R	0.11 R	0.12 R
SW8270C	Benzyl butyl phthalate	mg/kg	0.35 U	0.14 U	0.13 U	0.13 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0.35 U	0.072 U	0.066 U	0.067 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1904 05 ft 2000-05-15	BHGLAOC1905 00 ft 2001-08-20	BHGLAOC1905 05 ft 2001-08-20	BHGLAOC1905 10 ft 2001-08-20
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.35 U	0.11 U	0.1 U	0.1 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0.35 U	0.14 U	0 13 U	0.42
SW8270C	Chlorobenzilate	mg/kg	0.35 U	0.28 U	0 26 U	0.26 U
SW8270C	Chrysene	mg/kg	0.35 U	0.049 U	0.045 U	0.046 U
SW8270C	Cresols, m & p	mg/kg	0.35 U	0.14 U	0.13 U	0.13 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0.35 U	0.35 U	0 33 U	0.33 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	0.35 U	0.14 U	0 13 U	0.13 U
SW8270C	Dibenzofuran	mg/kg	0 35 U	0 067 U	0.061 U	0.063 U
SW8270C	Diethyl phthalate	mg/kg	0.35 U	0.12 U	0 11 U	0.11 U
SW8270C	Dimethyl phthalate	mg/kg	0.35 U	0.091 U	0.084 U	0.085 U
SW8270C	Di-n-butyl phthalate	mg/kg	0.35 U	0.087 U	0.08 U	0.082 U
SW8270C	Di-n-octyl phthalate	mg/kg	0 35 U	0.32 U	0.3 U	0 3 U
SW8270C	Dinoseb	mg/kg	0.7 U	0.55 U	0 51 U	0.52 U
SW8270C	Diphenylamine	mg/kg	0.35 U	0.25 U	0 23 U	0.23 U
SW8270C	Ethyl methanesulfonate	mg/kg	0.35 U	0.4 U	0 37 U	0.37 U
SW8270C	Fluoranthene	mg/kg	0.35 U	0.11 U	0.1 U	0.11 U
SW8270C	Fluorene	mg/kg	0 35 U	0.12 U	0.11 U	0 11 U
SW8270C	Hexachlorobenzene	mg/kg	0.35 U	0.086 U	0 079 U	0.081 U
SW8270C	Hexachlorobutadiene	mg/kg	0.35 U	0.084 U	0.077 U	0.078 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	0.35 U	0.15 U	0 14 U	0.14 U
SW8270C	Hexachloroethane	mg/kg	0.35 U	0.095 U	0.087 U	0.089 U
SW8270C	Hexachlorophene	mg/kg	5.2 R	1 6 U	1.5 U	1.5 U
SW8270C	Hexachloropropene	mg/kg	1 8 U	0.36 U	0.33 U	0.34 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0.35 U	0.14 U	0.13 U	0.13 U
SW8270C	Isophorone	mg/kg	0.35 U	0.061 U	0 056 U	0.057 U
SW8270C	Isosafrole	mg/kg	0.35 U	0.26 U	0.24 U	0 24 U
SW8270C	Methapyrilene	mg/kg	1.8 U	1.8 U	1.7 U	1.7 U
SW8270C	Methyl methanesulfonate	mg/kg	0.7 U	0 4 U	0 37 U	0.38 U
SW8270C	Naphthalene	mg/kg	0 35 U	0.078 U	0.071 U	0.073 U
SW8270C	Nitrobenzene	mg/kg	0.35 U	0.076 U	0.07 U	0.072 U
SW8270C	N-Nitrosodiethylamine	mg/kg	0 7 U	0.41 U	0.38 U	0.38 U
SW8270C	N-Nitrosodimethylamine	mg/kg	0.35 U	0.13 U	0.12 U	0.12 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0 35 U	0 21 U	0.2 U	0.2 U
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0 35 U	0.12 U	0.11 U	0.11 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1904 05 ft 2000-05-15	BHGLAOC1905 00 ft 2001-08-20	BHGLAOC1905 05 ft 2001-08-20	BHGLAOC1905 10 ft 2001-08-20
SW8270C	N-Nitrosodiphenylamine	mg/kg	0 35 U	0.13 U	0.12 U	0.12 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	0.7 U	0.63 U	0 58 U	0.59 U
SW8270C	N-Nitrosomorpholine	mg/kg	0.7 U	0.48 U	0.44 U	0.45 U
SW8270C	N-Nitrosopiperidine	mg/kg	0.35 U	0.32 U	0.29 U	0 3 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	1.8 U	0 6 U	0.55 U	0.56 U
SW8270C	o-Toluidine	mg/kg	0.35 U	0.29 U	0.26 U	0.27 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0.7 U	0.45 U	0.42 U	0 43 U
SW8270C	Pentachlorobenzene	mg/kg	0.35 U	0.21 U	0.19 U	0.19 U
SW8270C	Pentachloronitrobenzene	mg/kg	0 35 U	0 26 U	0.24 U	0.25 U
SW8270C	Pentachlorophenol	mg/kg	1.8 U	0 22 U	0 21 U	0.21 U
SW8270C	Phenacetin	mg/kg	0.7 U	0.47 U	0.43 U	0.44 U
SW8270C	Phenanthrene	mg/kg	0.35 U	0.084 U	0.077 U	0.078 U
SW8270C	Phenol	mg/kg	0.35 U	0.1 U	0 093 U	0 094 U
SW8270C	p-Phenylenediamine	mg/kg	1 4 U	0.98 U	0.9 U	0.92 U
SW8270C	Pronamide	mg/kg	0 7 U	0.5 U	0 46 U	0.46 U
SW8270C	Pyrene	mg/kg	0 35 U	0 17 U	0.16 U	0.16 U
SW8270C	Pyridine	mg/kg	0.7 R	0.12 U	0.11 U	0.12 U
SW8270C	Safrole	mg/kg	0 35 U	0.22 U	0.21 U	0.21 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1906 05 ft 2001-08-20	BHGLAOC1906 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20 Dup
SW6010B	Arsenic	mg/kg	NA	NA	NA	NA
SW6010B	Barium	mg/kg	NA	NA	NA	NA
SW6010B	Beryllium	mg/kg	NA	NA	NA	NA
SW6010B	Cadmium	mg/kg	NA	NA	NA	NA
SW6010B	Chromium, total	mg/kg	NA	NA	NA	NA
SW6010B	Cobalt	mg/kg	NA	NA	NA	NA
SW6010B	Copper	mg/kg	NA	NA	NA	NA
SW6010B	Nickel	mg/kg	NA	NA	NA	NA
SW6010B	Tin	mg/kg	NA	NA	NA	NA
SW6010B	Vanadium	mg/kg	NA	NA	NA	NA
SW6010B	Zinc	mg/kg	NA	NA	NA	NA
SW7041	Antimony	mg/kg	NA	NA	NA	NA
SW7421	Lead	mg/kg	NA	NA	NA	NA
SW7471A	Mercury	mg/kg	NA	NA	NA	NA
SW7740	Selenium	mg/kg	NA	NA	NA	NA
SW7761	Silver	mg/kg	NA	NA	NA	NA
SW7841	Thallium	mg/kg	NA	NA	NA	NA
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1,1-Trichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1,2-Trichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1-Dichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1-Dichloroethene	mg/kg	NA	NA	NA	NA
SW8260B	1,2,3-Trichloropropane	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dichloropropane	mg/kg	NA	NA	NA	NA
SW8260B	2-Chloro-1,3-butadiene	mg/kg	NA	NA	NA	NA
SW8260B	2-Hexanone	mg/kg	NA	NA	NA	NA
SW8260B	Acetone	mg/kg	NA	NA	NA	NA
SW8260B	Acetonitrile	mg/kg	NA	NA	NA	NA
SW8260B	Acrolein	mg/kg	NA	NA	NA	NA
SW8260B	Acrylonitrile	mg/kg	NA	NA	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1906 05 ft 2001-08-20	BHGLAOC1906 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20 Dup
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	NA	NA	NA	NA
SW8260B	Benzene	mg/kg	NA	NA	NA	NA
SW8260B	Bromodichloromethane	mg/kg	NA	NA	NA	NA
SW8260B	Bromoform	mg/kg	NA	NA	NA	NA
SW8260B	Bromomethane	mg/kg	NA	NA	NA	NA
SW8260B	Carbon disulfide	mg/kg	NA	NA	NA	NA
SW8260B	Carbon tetrachloride	mg/kg	NA	NA	NA	NA
SW8260B	Chlorobenzene	mg/kg	NA	NA	NA	NA
SW8260B	Chloroethane	mg/kg	NA	NA	NA	NA
SW8260B	Chloroform	mg/kg	NA	NA	NA	NA
SW8260B	Chloromethane	mg/kg	NA	NA	NA	NA
SW8260B	cis-1,2-Dichloroethene	mg/kg	NA	NA	NA	NA
SW8260B	cis-1,3-Dichloropropene	mg/kg	NA	NA	NA	NA
SW8260B	Dibromochloromethane	mg/kg	NA	NA	NA	NA
SW8260B	Dibromomethane	mg/kg	NA	NA	NA	NA
SW8260B	Dichlorodifluoromethane	mg/kg	NA	NA	NA	NA
SW8260B	Ethyl methacrylate	mg/kg	NA	NA	NA	NA
SW8260B	Ethylbenzene	mg/kg	NA	NA	NA	NA
SW8260B	Iodomethane (Methyl iodide)	mg/kg	NA	NA	NA	NA
SW8260B	Isobutanol	mg/kg	NA	NA	NA	NA
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	NA	NA	NA	NA
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	NA	NA	NA	NA
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	NA	NA	NA	NA
SW8260B	Methyl methacrylate	mg/kg	NA	NA	NA	NA
SW8260B	Methylacrylonitrile	mg/kg	NA	NA	NA	NA
SW8260B	Methylene chloride	mg/kg	NA	NA	NA	NA
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	NA	NA	NA	NA
SW8260B	Pentachloroethane	mg/kg	NA	NA	NA	NA
SW8260B	Propane nitrile (Propionitrile)	mg/kg	NA	NA	NA	NA
SW8260B	Styrene	mg/kg	NA	NA	NA	NA
SW8260B	Tert-Butyl Methyl Ether	mg/kg	NA	NA	NA	NA
SW8260B	Tetrachloroethene (PCE)	mg/kg	NA	NA	NA	NA
SW8260B	Toluene	mg/kg	NA	NA	NA	NA
SW8260B	Trans-1,2-Dichloroethene	mg/kg	NA	NA	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1906 05 ft 2001-08-20	BHGLAOC1906 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20 Dup
SW8260B	Trans-1,3-Dichloropropene	mg/kg	NA	NA	NA	NA
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	NA	NA	NA	NA
SW8260B	Trichloroethene (TCE)	mg/kg	0 033	0.008 J	0.0006 U	0.0005 U
SW8260B	Trichlorofluoromethane	mg/kg	NA	NA	NA	NA
SW8260B	Vinyl acetate	mg/kg	NA	NA	NA	NA
SW8260B	Vinyl chloride	mg/kg	NA	NA	NA	NA
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	NA	NA	NA	NA
SW8270C	1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA	NA
SW8270C	1,2-Dichlorobenzene	mg/kg	NA	NA	NA	NA
SW8270C	1,3,5-Trinitrobenzene	mg/kg	NA	NA	NA	NA
SW8270C	1,3-Dichlorobenzene	mg/kg	NA	NA	NA	NA
SW8270C	1,3-Dinitrobenzene	mg/kg	NA	NA	NA	NA
SW8270C	1,4-Dichlorobenzene	mg/kg	NA	NA	NA	NA
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	NA	NA	NA	NA
SW8270C	1,4-Naphthoquinone	mg/kg	NA	NA	NA	NA
SW8270C	1-Naphthylamine	mg/kg	NA	NA	NA	NA
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	NA	NA	NA	NA
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	NA	NA	NA	NA
SW8270C	2,4,5-Trichlorophenol	mg/kg	NA	NA	NA	NA
SW8270C	2,4,6-Trichlorophenol	mg/kg	NA	NA	NA	NA
SW8270C	2,4-Dichlorophenol	mg/kg	NA	NA	NA	NA
SW8270C	2,4-Dimethylphenol	mg/kg	NA	NA	NA	NA
SW8270C	2,4-Dinitrophenol	mg/kg	NA	NA	NA	NA
SW8270C	2,4-Dinitrotoluene	mg/kg	NA	NA	NA	NA
SW8270C	2,6-Dichlorophenol	mg/kg	NA	NA	NA	NA
SW8270C	2,6-Dinitrotoluene	mg/kg	NA	NA	NA	NA
SW8270C	2-Acetylaminofluorene	mg/kg	NA	NA	NA	NA
SW8270C	2-Aminonaphthalene (beta-Naphthylamine)	mg/kg	NA	NA	NA	NA
SW8270C	2-Chloronaphthalene	mg/kg	NA	NA	NA	NA
SW8270C	2-Chlorophenol	mg/kg	NA	NA	NA	NA
SW8270C	2-Methylnaphthalene	mg/kg	NA	NA	NA	NA
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	NA	NA	NA	NA
SW8270C	2-Nitroaniline	mg/kg	NA	NA	NA	NA
SW8270C	2-Nitrophenol	mg/kg	NA	NA	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1906 05 ft 2001-08-20	BHGLAOC1906 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20 Dup
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	NA	NA	NA	NA
SW8270C	3,3'-Dichlorobenzidine	mg/kg	NA	NA	NA	NA
SW8270C	3,3'-Dimethylbenzidine	mg/kg	NA	NA	NA	NA
SW8270C	3-Methylcholanthrene	mg/kg	NA	NA	NA	NA
SW8270C	3-Nitroaniline	mg/kg	NA	NA	NA	NA
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	NA	NA	NA	NA
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	NA	NA	NA	NA
SW8270C	4-Bromophenyl phenyl ether	mg/kg	NA	NA	NA	NA
SW8270C	4-Chloro-3-methylphenol	mg/kg	NA	NA	NA	NA
SW8270C	4-Chloroaniline	mg/kg	NA	NA	NA	NA
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	NA	NA	NA	NA
SW8270C	4-Methylphenol (P-Cresol)	mg/kg	NA	NA	NA	NA
SW8270C	4-Nitroaniline	mg/kg	NA	NA	NA	NA
SW8270C	4-Nitrophenol	mg/kg	NA	NA	NA	NA
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	NA	NA	NA	NA
SW8270C	5-Nitro-o-toluidine	mg/kg	NA	NA	NA	NA
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	NA	NA	NA	NA
SW8270C	Acenaphthene	mg/kg	NA	NA	NA	NA
SW8270C	Acenaphthylene	mg/kg	NA	NA	NA	NA
SW8270C	Acetophenone	mg/kg	NA	NA	NA	NA
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	NA	NA	NA	NA
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	NA	NA	NA	NA
SW8270C	Anthracene	mg/kg	NA	NA	NA	NA
SW8270C	Aramite (total)	mg/kg	NA	NA	NA	NA
SW8270C	Benzo(a)anthracene	mg/kg	NA	NA	NA	NA
SW8270C	Benzo(a)pyrene	mg/kg	NA	NA	NA	NA
SW8270C	Benzo(b)fluoranthene	mg/kg	NA	NA	NA	NA
SW8270C	Benzo(g,h,i)perylene	mg/kg	NA	NA	NA	NA
SW8270C	Benzo(k)fluoranthene	mg/kg	NA	NA	NA	NA
SW8270C	Benzoic acid	mg/kg	NA	NA	NA	NA
SW8270C	Benzyl alcohol	mg/kg	NA	NA	NA	NA
SW8270C	Benzyl butyl phthalate	mg/kg	NA	NA	NA	NA
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	NA	NA	NA	NA

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1906 05 ft 2001-08-20	BHGLAOC1906 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20 Dup
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	NA	NA	NA	NA
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	NA	NA	NA	NA
SW8270C	Chlorobenzilate	mg/kg	NA	NA	NA	NA
SW8270C	Chrysene	mg/kg	NA	NA	NA	NA
SW8270C	Cresols, m & p	mg/kg	NA	NA	NA	NA
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	NA	NA	NA	NA
SW8270C	Dibenz(a,h)anthracene	mg/kg	NA	NA	NA	NA
SW8270C	Dibenzofuran	mg/kg	NA	NA	NA	NA
SW8270C	Diethyl phthalate	mg/kg	NA	NA	NA	NA
SW8270C	Dimethyl phthalate	mg/kg	NA	NA	NA	NA
SW8270C	Di-n-butyl phthalate	mg/kg	NA	NA	NA	NA
SW8270C	Di-n-octyl phthalate	mg/kg	NA	NA	NA	NA
SW8270C	Dinoseb	mg/kg	NA	NA	NA	NA
SW8270C	Diphenylamine	mg/kg	NA	NA	NA	NA
SW8270C	Ethyl methanesulfonate	mg/kg	NA	NA	NA	NA
SW8270C	Fluoranthene	mg/kg	NA	NA	NA	NA
SW8270C	Fluorene	mg/kg	NA	NA	NA	NA
SW8270C	Hexachlorobenzene	mg/kg	NA	NA	NA	NA
SW8270C	Hexachlorobutadiene	mg/kg	NA	NA	NA	NA
SW8270C	Hexachlorocyclopentadiene	mg/kg	NA	NA	NA	NA
SW8270C	Hexachloroethane	mg/kg	NA	NA	NA	NA
SW8270C	Hexachlorophene	mg/kg	NA	NA	NA	NA
SW8270C	Hexachloropropene	mg/kg	NA	NA	NA	NA
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	NA	NA	NA	NA
SW8270C	Isophorone	mg/kg	NA	NA	NA	NA
SW8270C	Isosafrole	mg/kg	NA	NA	NA	NA
SW8270C	Methapyrilene	mg/kg	NA	NA	NA	NA
SW8270C	Methyl methanesulfonate	mg/kg	NA	NA	NA	NA
SW8270C	Naphthalene	mg/kg	NA	NA	NA	NA
SW8270C	Nitrobenzene	mg/kg	NA	NA	NA	NA
SW8270C	N-Nitrosodiethylamine	mg/kg	NA	NA	NA	NA
SW8270C	N-Nitrosodimethylamine	mg/kg	NA	NA	NA	NA
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	NA	NA	NA	NA
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	NA	NA	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1906 05 ft 2001-08-20	BHGLAOC1906 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20	BHGLAOC1907 10 ft 2001-08-20 Dup
SW8270C	N-Nitrosodiphenylamine	mg/kg	NA	NA	NA	NA
SW8270C	N-Nitrosomethylethylamine	mg/kg	NA	NA	NA	NA
SW8270C	N-Nitrosomorpholine	mg/kg	NA	NA	NA	NA
SW8270C	N-Nitrosopiperidine	mg/kg	NA	NA	NA	NA
SW8270C	N-Nitrosopyrrolidine	mg/kg	NA	NA	NA	NA
SW8270C	o-Toluidine	mg/kg	NA	NA	NA	NA
SW8270C	p-Dimethylaminoazobenzene	mg/kg	NA	NA	NA	NA
SW8270C	Pentachlorobenzene	mg/kg	NA	NA	NA	NA
SW8270C	Pentachloronitrobenzene	mg/kg	NA	NA	NA	NA
SW8270C	Pentachlorophenol	mg/kg	NA	NA	NA	NA
SW8270C	Phenacetin	mg/kg	NA	NA	NA	NA
SW8270C	Phenanthrene	mg/kg	NA	NA	NA	NA
SW8270C	Phenol	mg/kg	NA	NA	NA	NA
SW8270C	p-Phenylenediamine	mg/kg	NA	NA	NA	NA
SW8270C	Pronamide	mg/kg	NA	NA	NA	NA
SW8270C	Pyrene	mg/kg	NA	NA	NA	NA
SW8270C	Pyridine	mg/kg	NA	NA	NA	NA
SW8270C	Safrole	mg/kg	NA	NA	NA	NA

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1908 00 ft 2001-08-21	BHGLAOC1908 05 ft 2001-08-21	BHGLAOC1908 10 ft 2001-08-21	BHGLAOC1909 05 ft 2001-08-22
SW6010B	Arsenic	mg/kg	4.2 F	2 7 F	3.7 F	NA
SW6010B	Barium	mg/kg	80.3	92	53.5	NA
SW6010B	Beryllium	mg/kg	0 79	0 86	0 64	NA
SW6010B	Cadmium	mg/kg	0.093 U	0.11 U	0.11 U	NA
SW6010B	Chromium, total	mg/kg	12.8	17.7	13	NA
SW6010B	Cobalt	mg/kg	5 4 F	3 3 F	2.9 F	NA
SW6010B	Copper	mg/kg	8 6 F	8 9 F	4.4 F	NA
SW6010B	Nickel	mg/kg	10 8	9.4 F	7.6 F	NA
SW6010B	Tin	mg/kg	1.6 U	1 9 U	2 1 U	NA
SW6010B	Vanadium	mg/kg	25.1 F	25 F	25 F	NA
SW6010B	Zinc	mg/kg	20 3 U	25.5 U	16 7 U	NA
SW7041	Antimony	mg/kg	0.43 F	0.23 F	0.24 UJ	NA
SW7421	Lead	mg/kg	11.1	10.1	6.4	NA
SW7471A	Mercury	mg/kg	0.013 F	0.0062 U	0.0065 U	NA
SW7740	Selenium	mg/kg	0.2 UJ	0 18 UJ	0.2 UJ	NA
SW7761	Silver	mg/kg	0.082 UJ	0.075 UJ	0 084 UJ	NA
SW7841	Thallium	mg/kg	0 23 U	0.21 UJ	0 24 UJ	NA
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	0.0008 U	0.0007 U	0 0007 U	NA
SW8260B	1,1,1-Trichloroethane	mg/kg	0.0007 U	0.0006 U	0.0006 U	NA
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	0.0007 U	0.0006 U	0.0006 U	NA
SW8260B	1,1,2-Trichloroethane	mg/kg	0.0008 U	0.0007 U	0.0007 U	NA
SW8260B	1,1-Dichloroethane	mg/kg	0.001 U	0.0008 U	0.0008 U	NA
SW8260B	1,1-Dichloroethene	mg/kg	0.001 U	0.0009 U	0.0009 U	NA
SW8260B	1,2,3-Trichloropropane	mg/kg	0.001 U	0.001 U	0.001 U	NA
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	0.001 U	0.001 U	0.001 U	NA
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0 0009 U	0.0007 U	0.0007 U	NA
SW8260B	1,2-Dichloroethane	mg/kg	0 0007 U	0.0005 U	0 0005 U	NA
SW8260B	1,2-Dichloropropane	mg/kg	0.001 U	0.0009 U	0 0009 U	NA
SW8260B	2-Chloro-1,3-butadiene	mg/kg	0 0008 U	0.0006 U	0 0006 U	NA
SW8260B	2-Hexanone	mg/kg	0 002 U	0.002 U	0.002 U	NA
SW8260B	Acetone	mg/kg	0 008 U	0.004 U	0.004 U	NA
SW8260B	Acetonitrile	mg/kg	0 029 U	0.024 U	0.024 U	NA
SW8260B	Acrolein	mg/kg	0.043 U	0.035 U	0.035 U	NA
SW8260B	Acrylonitrile	mg/kg	0 008 U	0.007 U	0.007 U	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1908 00 ft 2001-08-21	BHGLAOC1908 05 ft 2001-08-21	BHGLAOC1908 10 ft 2001-08-21	BHGLAOC1909 05 ft 2001-08-22
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	0.002 U	0.002 U	0.002 U	NA
SW8260B	Benzene	mg/kg	0.0007 U	0.0006 U	0.0006 U	NA
SW8260B	Bromodichloromethane	mg/kg	0.0008 U	0.0006 U	0.0006 U	NA
SW8260B	Bromoform	mg/kg	0.001 U	0.0008 U	0.0008 U	NA
SW8260B	Bromomethane	mg/kg	0.003 R	0.003 R	0.003 R	NA
SW8260B	Carbon disulfide	mg/kg	0.002 U	0.002 U	0.002 U	NA
SW8260B	Carbon tetrachloride	mg/kg	0.0009 U	0.0008 U	0.0008 U	NA
SW8260B	Chlorobenzene	mg/kg	0.001 U	0.0008 U	0.0008 U	NA
SW8260B	Chloroethane	mg/kg	0.002 R	0.001 R	0.001 R	NA
SW8260B	Chloroform	mg/kg	0.0007 U	0.0006 U	0.0006 U	NA
SW8260B	Chloromethane	mg/kg	0.001 R	0.0009 R	0.0009 R	NA
SW8260B	cis-1,2-Dichloroethene	mg/kg	0.001 U	0.001 U	0.007	NA
SW8260B	cis-1,3-Dichloropropene	mg/kg	0.0009 U	0.0007 U	0.0007 U	NA
SW8260B	Dibromochloromethane	mg/kg	0.0008 U	0.0006 U	0.0006 U	NA
SW8260B	Dibromomethane	mg/kg	0.0008 U	0.0006 U	0.0006 U	NA
SW8260B	Dichlorodifluoromethane	mg/kg	0.0008 U	0.0007 U	0.0007 U	NA
SW8260B	Ethyl methacrylate	mg/kg	0.002 U	0.001 U	0.001 U	NA
SW8260B	Ethylbenzene	mg/kg	0.001 U	0.001 U	0.001 U	NA
SW8260B	Iodomethane (Methyl iodide)	mg/kg	0.004 U	0.003 U	0.003 U	NA
SW8260B	Isobutanol	mg/kg	0.095 U	0.078 U	0.078 U	NA
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	0.002 U	0.002 U	0.002 U	NA
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	0.005 U	0.004 U	0.004 U	NA
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	0.003 U	0.003 U	0.003 U	NA
SW8260B	Methyl methacrylate	mg/kg	0.002 U	0.002 U	0.002 U	NA
SW8260B	Methylacrylonitrile	mg/kg	0.005 U	0.004 U	0.004 U	NA
SW8260B	Methylene chloride	mg/kg	0.002 U	0.002 U	0.002 U	NA
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	0.001 U	0.0009 U	0.0009 U	NA
SW8260B	Pentachloroethane	mg/kg	0.006 U	0.005 U	0.005 U	NA
SW8260B	Propane nitrile (Propionitrile)	mg/kg	0.021 U	0.018 U	0.018 U	NA
SW8260B	Styrene	mg/kg	0.001 U	0.0009 U	0.0009 U	NA
SW8260B	Tert-Butyl Methyl Ether	mg/kg	0.0007 U	0.0006 U	0.0006 U	NA
SW8260B	Tetrachloroethene (PCE)	mg/kg	0.0008 U	0.0006 U	0.0006 U	NA
SW8260B	Toluene	mg/kg	0.001 U	0.0009 U	0.0009 U	NA
SW8260B	Trans-1,2-Dichloroethene	mg/kg	0.001 U	0.0009 U	0.0009 U	NA

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1908 00 ft 2001-08-21	BHGLAOC1908 05 ft 2001-08-21	BHGLAOC1908 10 ft 2001-08-21	BHGLAOC1909 05 ft 2001-08-22
SW8260B	Trans-1,3-Dichloropropene	mg/kg	0.0009 U	0.0008 U	0 0008 U	NA
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	0.002 U	0.002 U	0 002 U	NA
SW8260B	Trichloroethene (TCE)	mg/kg	0.0007 U	0.0005 U	0.03	NA
SW8260B	Trichlorofluoromethane	mg/kg	0 0008 U	0 0007 U	0 0007 U	NA
SW8260B	Vinyl acetate	mg/kg	0.0006 U	0 0005 U	0.0005 U	NA
SW8260B	Vinyl chloride	mg/kg	0 0008 U	0.0007 U	0 0007 U	NA
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0 22 U	0.21 U	0.22 U	0.19 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0 058 U	0.055 U	0.058 U	0.051 U
SW8270C	1,2-Dichlorobenzene	mg/kg	0.1 U	0.097 U	0.1 U	0.09 R
SW8270C	1,3,5-Trinitrobenzene	mg/kg	0.88 U	0.83 U	0.88 U	0.77 U
SW8270C	1,3-Dichlorobenzene	mg/kg	0.11 U	0.11 U	0.11 U	0.097 U
SW8270C	1,3-Dinitrobenzene	mg/kg	0.4 U	0.38 U	0 4 U	0.35 U
SW8270C	1,4-Dichlorobenzene	mg/kg	0 088 U	0.084 U	0.088 U	0.077 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	0 96 U	0.91 U	0.96 U	0.84 U
SW8270C	1,4-Naphthoquinone	mg/kg	1 5 U	1 4 U	1 5 U	1.3 U
SW8270C	1-Naphthylamine	mg/kg	0.61 U	0.58 U	0.61 U	0.53 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0.21 U	0.19 U	0.2 U	0.18 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0.33 U	0.32 U	0.33 U	0.29 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	0.08 U	0 076 U	0.08 U	0.07 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	0.081 U	0.077 U	0 081 U	0 071 U
SW8270C	2,4-Dichlorophenol	mg/kg	0.068 U	0 064 U	0.068 U	0.059 U
SW8270C	2,4-Dimethylphenol	mg/kg	0.27 U	0.25 U	0.27 U	0.23 U
SW8270C	2,4-Dinitrophenol	mg/kg	0.23 U	0.22 U	0.23 U	0 21 U
SW8270C	2,4-Dinitrotoluene	mg/kg	0.088 U	0 084 U	0.088 U	0.077 U
SW8270C	2,6-Dichlorophenol	mg/kg	0 26 U	0.25 U	0.26 U	0.23 U
SW8270C	2,6-Dinitrotoluene	mg/kg	0.093 U	0.088 U	0.093 U	0.081 U
SW8270C	2-Acetylaminofluorene	mg/kg	0.64 U	0.61 U	0.64 U	0 56 U
SW8270C	2-Aminonaphthalene (beta-Naphthylamine)	mg/kg	0.62 U	0.58 U	0.61 U	0.54 U
SW8270C	2-Chloronaphthalene	mg/kg	0.064 U	0.061 U	0.064 U	0 056 U
SW8270C	2-Chlorophenol	mg/kg	0 082 U	0.078 U	0.082 U	0.072 U
SW8270C	2-Methylnaphthalene	mg/kg	0.28 U	0 27 U	0.28 U	0.25 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0.15 U	0.14 U	0.15 U	0 13 U
SW8270C	2-Nitroaniline	mg/kg	0.13 U	0.12 U	0.13 U	0 11 U
SW8270C	2-Nitrophenol	mg/kg	0 092 U	0.087 U	0.092 U	0.08 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1908 00 ft 2001-08-21	BHGLAOC1908 05 ft 2001-08-21	BHGLAOC1908 10 ft 2001-08-21	BHGLAOC1909 05 ft 2001-08-22
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0.27 U	0.25 U	0.27 U	0.23 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0.14 U	0.13 U	0.14 U	0.12 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	0.36 U	0.34 U	0.36 U	0.32 U
SW8270C	3-Methylcholanthrene	mg/kg	0.36 U	0.34 U	0.36 U	0.32 U
SW8270C	3-Nitroaniline	mg/kg	0.17 U	0.16 U	0.17 U	0.15 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	0.17 U	0.16 U	0.17 U	0.15 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0.34 U	0.32 U	0.34 U	0.3 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0.11 U	0.1 U	0.11 U	0.096 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	0.1 U	0.096 U	0.1 U	0.089 U
SW8270C	4-Chloroaniline	mg/kg	0.15 U	0.14 U	0.15 U	0.13 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0.1 U	0.098 U	0.1 U	0.091 U
SW8270C	4-Methylphenol (P-Cresol)	mg/kg	NA	NA	NA	NA
SW8270C	4-Nitroaniline	mg/kg	0.16 U	0.15 U	0.16 U	0.14 U
SW8270C	4-Nitrophenol	mg/kg	0.44 U	0.41 U	0.44 U	0.38 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	1.6 U	1.5 U	1.6 U	1.4 R
SW8270C	5-Nitro-o-toluidine	mg/kg	0.37 U	0.35 U	0.37 U	0.32 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0.55 U	0.52 U	0.55 U	0.48 U
SW8270C	Acenaphthene	mg/kg	0.063 U	0.06 U	0.063 U	0.055 U
SW8270C	Acenaphthylene	mg/kg	0.066 U	0.062 U	0.065 U	0.057 U
SW8270C	Acetophenone	mg/kg	0.34 U	0.32 U	0.33 U	0.29 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	1.8 U	1.7 U	1.8 U	1.5 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0.13 U	0.12 U	0.13 U	0.11 U
SW8270C	Anthracene	mg/kg	0.087 U	0.083 U	0.087 U	0.076 U
SW8270C	Aramite (total)	mg/kg	0.42 U	0.4 U	0.42 U	0.37 U
SW8270C	Benzo(a)anthracene	mg/kg	0.063 U	0.06 U	0.063 U	0.055 U
SW8270C	Benzo(a)pyrene	mg/kg	0.069 U	0.066 U	0.069 U	0.061 U
SW8270C	Benzo(b)fluoranthene	mg/kg	0.13 U	0.12 U	0.13 U	0.11 U
SW8270C	Benzo(g,h,i)perylene	mg/kg	0.18 U	0.17 U	0.18 U	0.16 U
SW8270C	Benzo(k)fluoranthene	mg/kg	0.14 U	0.13 U	0.14 U	0.12 R
SW8270C	Benzoic acid	mg/kg	0.2 U	0.19 U	0.2 U	0.18 R
SW8270C	Benzyl alcohol	mg/kg	0.12 R	0.12 R	0.12 R	0.11 U
SW8270C	Benzyl butyl phthalate	mg/kg	0.14 U	0.13 U	0.14 U	0.12 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0.07 U	0.067 U	0.07 U	0.062 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1908 00 ft 2001-08-21	BHGLAOC1908 05 ft 2001-08-21	BHGLAOC1908 10 ft 2001-08-21	BHGLAOC1909 05 ft 2001-08-22
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.11 U	0.1 U	0.11 U	0.095 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0.13 U	0.13 U	0.13 U	0.12 U
SW8270C	Chlorobenzilate	mg/kg	0.27 U	0.26 U	0.27 U	0.24 U
SW8270C	Chrysene	mg/kg	0.048 U	0.045 U	0.048 U	0.042 U
SW8270C	Cresols, m & p	mg/kg	0.14 U	0.13 U	0.14 U	0.12 U
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0.35 U	0.33 U	0.35 U	0.3 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	0.13 U	0.13 U	0.13 U	0.12 U
SW8270C	Dibenzofuran	mg/kg	0.066 U	0.062 U	0.065 U	0.057 U
SW8270C	Diethyl phthalate	mg/kg	0.11 U	0.11 U	0.11 U	0.099 U
SW8270C	Dimethyl phthalate	mg/kg	0.089 U	0.085 U	0.089 U	0.078 U
SW8270C	Di-n-butyl phthalate	mg/kg	0.086 U	0.081 U	0.086 U	0.075 U
SW8270C	Di-n-octyl phthalate	mg/kg	0.32 U	0.3 U	0.32 U	0.28 U
SW8270C	Dinoseb	mg/kg	0.54 U	0.51 U	0.54 U	0.47 U
SW8270C	Diphenylamine	mg/kg	0.24 U	0.23 U	0.24 U	0.21 U
SW8270C	Ethyl methanesulfonate	mg/kg	0.39 U	0.37 U	0.39 U	0.34 U
SW8270C	Fluoranthene	mg/kg	0.11 U	0.11 U	0.11 U	0.098 U
SW8270C	Fluorene	mg/kg	0.12 U	0.11 U	0.12 U	0.1 U
SW8270C	Hexachlorobenzene	mg/kg	0.085 U	0.08 U	0.085 U	0.074 U
SW8270C	Hexachlorobutadiene	mg/kg	0.082 U	0.078 U	0.082 U	0.072 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	0.14 U	0.14 U	0.14 U	0.13 U
SW8270C	Hexachloroethane	mg/kg	0.093 U	0.088 U	0.093 U	0.081 U
SW8270C	Hexachlorophene	mg/kg	1.6 U	1.5 U	1.5 U	1.4 U
SW8270C	Hexachloropropene	mg/kg	0.36 U	0.34 U	0.36 U	0.31 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0.13 U	0.13 U	0.13 U	0.12 U
SW8270C	Isophorone	mg/kg	0.06 U	0.057 U	0.06 U	0.052 U
SW8270C	Isosafrole	mg/kg	0.26 U	0.24 U	0.26 U	0.22 U
SW8270C	Methapyrilene	mg/kg	1.8 U	1.7 U	1.8 U	1.5 U
SW8270C	Methyl methanesulfonate	mg/kg	0.4 U	0.38 U	0.4 U	0.35 U
SW8270C	Naphthalene	mg/kg	0.076 U	0.072 U	0.076 U	0.067 U
SW8270C	Nitrobenzene	mg/kg	0.075 U	0.071 U	0.075 U	0.066 U
SW8270C	N-Nitrosodiethylamine	mg/kg	0.4 U	0.38 U	0.4 U	0.35 U
SW8270C	N-Nitrosodimethylamine	mg/kg	0.13 U	0.12 U	0.13 U	0.11 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0.21 U	0.2 U	0.21 U	0.18 U
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0.12 U	0.11 U	0.12 U	0.11 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1908 00 ft 2001-08-21	BHGLAOC1908 05 ft 2001-08-21	BHGLAOC1908 10 ft 2001-08-21	BHGLAOC1909 05 ft 2001-08-22
SW8270C	N-Nitrosodiphenylamine	mg/kg	0 13 U	0 12 U	0.13 U	0.11 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	0.62 U	0 59 U	0 62 U	0.54 U
SW8270C	N-Nitrosomorpholine	mg/kg	0.47 U	0.44 U	0.47 U	0.41 U
SW8270C	N-Nitrosopiperidine	mg/kg	0.31 U	0.3 U	0.31 U	0.27 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	0 59 U	0 56 U	0 59 U	0.52 U
SW8270C	o-Toluidine	mg/kg	0.28 U	0.27 U	0 28 U	0.25 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0.45 U	0.42 U	0.45 U	0.39 U
SW8270C	Pentachlorobenzene	mg/kg	0.2 U	0.19 U	0.2 U	0.18 U
SW8270C	Pentachloronitrobenzene	mg/kg	0 26 U	0.24 U	0.26 U	0.23 U
SW8270C	Pentachlorophenol	mg/kg	0.22 U	0.21 U	0.22 U	0.19 U
SW8270C	Phenacetin	mg/kg	0.46 U	0.44 U	0.46 U	0.41 U
SW8270C	Phenanthrene	mg/kg	0.082 U	0.078 U	0 082 U	0.072 U
SW8270C	Phenol	mg/kg	0.099 U	0.094 U	0.099 U	0.087 U
SW8270C	p-Phenylenediamine	mg/kg	0.96 U	0.91 U	0.96 U	0 84 U
SW8270C	Pronamide	mg/kg	0.49 U	0.46 U	0.49 U	0 43 U
SW8270C	Pyrene	mg/kg	0.17 U	0.16 U	0.17 U	0 15 U
SW8270C	Pyridine	mg/kg	0.12 U	0.12 U	0.12 U	0.11 U
SW8270C	Safrole	mg/kg	0 22 U	0.21 U	0.22 U	0.19 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1910 00 ft 2001-08-22	BHGLAOC1910 05 ft 2001-08-22	BHGLAOC1910 10 ft 2001-08-22	BHGLAOC1911 05 ft 2001-12-05
SW6010B	Arsenic	mg/kg	NA	NA	NA	NA
SW6010B	Barium	mg/kg	NA	NA	NA	NA
SW6010B	Beryllium	mg/kg	NA	NA	NA	NA
SW6010B	Cadmium	mg/kg	NA	NA	NA	NA
SW6010B	Chromium, total	mg/kg	NA	NA	NA	NA
SW6010B	Cobalt	mg/kg	NA	NA	NA	NA
SW6010B	Copper	mg/kg	NA	NA	NA	NA
SW6010B	Nickel	mg/kg	NA	NA	NA	NA
SW6010B	Tin	mg/kg	NA	NA	NA	NA
SW6010B	Vanadium	mg/kg	NA	NA	NA	NA
SW6010B	Zinc	mg/kg	NA	NA	NA	NA
SW7041	Antimony	mg/kg	NA	NA	NA	NA
SW7421	Lead	mg/kg	NA	NA	NA	NA
SW7471A	Mercury	mg/kg	NA	NA	NA	NA
SW7740	Selenium	mg/kg	NA	NA	NA	NA
SW7761	Silver	mg/kg	NA	NA	NA	NA
SW7841	Thallium	mg/kg	NA	NA	NA	NA
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1,1-Trichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1,2-Trichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1-Dichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1-Dichloroethene	mg/kg	NA	NA	NA	NA
SW8260B	1,2,3-Trichloropropane	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dichloropropane	mg/kg	NA	NA	NA	NA
SW8260B	2-Chloro-1,3-butadiene	mg/kg	NA	NA	NA	NA
SW8260B	2-Hexanone	mg/kg	NA	NA	NA	NA
SW8260B	Acetone	mg/kg	NA	NA	NA	NA
SW8260B	Acetonitrile	mg/kg	NA	NA	NA	NA
SW8260B	Acrolein	mg/kg	NA	NA	NA	NA
SW8260B	Acrylonitrile	mg/kg	NA	NA	NA	NA

724 244

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1910 00 ft 2001-08-22	BHGLAOC1910 05 ft 2001-08-22	BHGLAOC1910 10 ft 2001-08-22	BHGLAOC1911 05 ft 2001-12-05
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	NA	NA	NA	NA
SW8260B	Benzene	mg/kg	NA	NA	NA	NA
SW8260B	Bromodichloromethane	mg/kg	NA	NA	NA	NA
SW8260B	Bromoform	mg/kg	NA	NA	NA	NA
SW8260B	Bromomethane	mg/kg	NA	NA	NA	NA
SW8260B	Carbon disulfide	mg/kg	NA	NA	NA	NA
SW8260B	Carbon tetrachloride	mg/kg	NA	NA	NA	NA
SW8260B	Chlorobenzene	mg/kg	NA	NA	NA	NA
SW8260B	Chloroethane	mg/kg	NA	NA	NA	NA
SW8260B	Chloroform	mg/kg	NA	NA	NA	NA
SW8260B	Chloromethane	mg/kg	NA	NA	NA	NA
SW8260B	cis-1,2-Dichloroethene	mg/kg	NA	NA	NA	NA
SW8260B	cis-1,3-Dichloropropene	mg/kg	NA	NA	NA	NA
SW8260B	Dibromochloromethane	mg/kg	NA	NA	NA	NA
SW8260B	Dibromomethane	mg/kg	NA	NA	NA	NA
SW8260B	Dichlorodifluoromethane	mg/kg	NA	NA	NA	NA
SW8260B	Ethyl methacrylate	mg/kg	NA	NA	NA	NA
SW8260B	Ethylbenzene	mg/kg	NA	NA	NA	NA
SW8260B	Iodomethane (Methyl iodide)	mg/kg	NA	NA	NA	NA
SW8260B	Isobutanol	mg/kg	NA	NA	NA	NA
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	NA	NA	NA	NA
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	NA	NA	NA	NA
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	NA	NA	NA	NA
SW8260B	Methyl methacrylate	mg/kg	NA	NA	NA	NA
SW8260B	Methylacrylonitrile	mg/kg	NA	NA	NA	NA
SW8260B	Methylene chloride	mg/kg	NA	NA	NA	NA
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	NA	NA	NA	NA
SW8260B	Pentachloroethane	mg/kg	NA	NA	NA	NA
SW8260B	Propane nitrile (Propionitrile)	mg/kg	NA	NA	NA	NA
SW8260B	Styrene	mg/kg	NA	NA	NA	NA
SW8260B	Tert-Butyl Methyl Ether	mg/kg	NA	NA	NA	NA
SW8260B	Tetrachloroethene (PCE)	mg/kg	NA	NA	NA	NA
SW8260B	Toluene	mg/kg	NA	NA	NA	NA
SW8260B	Trans-1,2-Dichloroethene	mg/kg	NA	NA	NA	NA

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1910 00 ft 2001-08-22	BHGLAOC1910 05 ft 2001-08-22	BHGLAOC1910 10 ft 2001-08-22	BHGLAOC1911 05 ft 2001-12-05
SW8260B	Trans-1,3-Dichloropropene	mg/kg	NA	NA	NA	NA
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	NA	NA	NA	NA
SW8260B	Trichloroethene (TCE)	mg/kg	NA	NA	NA	NA
SW8260B	Trichlorofluoromethane	mg/kg	NA	NA	NA	NA
SW8260B	Vinyl acetate	mg/kg	NA	NA	NA	NA
SW8260B	Vinyl chloride	mg/kg	NA	NA	NA	NA
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0.21 U	0.2 U	0.22 U	0 22 U
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0.055 U	0.053 U	0 058 U	0.057 U
SW8270C	1,2-Dichlorobenzene	mg/kg	0.096 R	0.093 R	0.1 R	0.1 U
SW8270C	1,3,5-Trinitrobenzene	mg/kg	0 82 U	0.8 U	0.87 U	0 86 U
SW8270C	1,3-Dichlorobenzene	mg/kg	0.1 U	0.1 U	0 11 U	0.11 U
SW8270C	1,3-Dinitrobenzene	mg/kg	0.37 U	0.36 U	0.4 U	0.39 U
SW8270C	1,4-Dichlorobenzene	mg/kg	0.083 U	0.08 U	0 088 U	0.087 U
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	0.9 U	0.87 U	0 95 U	0.94 U
SW8270C	1,4-Naphthoquinone	mg/kg	1 4 U	1 3 U	1.4 U	1.4 U
SW8270C	1-Naphthylamine	mg/kg	0.57 U	0.55 U	0 61 U	0.6 U
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0.19 U	0.19 U	0.2 U	0.2 U
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0 31 U	0.3 U	0 33 U	0.33 U
SW8270C	2,4,5-Trichlorophenol	mg/kg	0.075 U	0.072 U	0.079 U	0.078 U
SW8270C	2,4,6-Trichlorophenol	mg/kg	0 076 U	0.073 U	0.081 U	0.08 U
SW8270C	2,4-Dichlorophenol	mg/kg	0.064 U	0.062 U	0 068 U	0.067 U
SW8270C	2,4-Dimethylphenol	mg/kg	0.25 UJ	0.24 U	0.26 U	0.26 U
SW8270C	2,4-Dinitrophenol	mg/kg	0.22 U	0 21 U	0.23 U	0.23 U
SW8270C	2,4-Dinitrotoluene	mg/kg	0 083 U	0.08 U	0.088 U	0 087 U
SW8270C	2,6-Dichlorophenol	mg/kg	0.24 U	0.24 U	0.26 U	0.25 U
SW8270C	2,6-Dinitrotoluene	mg/kg	0 087 U	0.084 U	0.092 U	0.091 U
SW8270C	2-Acetylaminofluorene	mg/kg	0 6 U	0.58 U	0.64 U	0.63 U
SW8270C	2-Aminonaphthalene (beta-Naphthylamine)	mg/kg	0 58 U	0.56 U	0.61 U	0.6 U
SW8270C	2-Chloronaphthalene	mg/kg	0.06 U	0.058 U	0 064 U	0.063 U
SW8270C	2-Chlorophenol	mg/kg	0 077 U	0.075 U	0 082 U	0.081 U
SW8270C	2-Methylnaphthalene	mg/kg	0 27 U	0.26 U	0.28 U	0.28 U
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0 14 U	0.13 U	0.15 U	0 14 U
SW8270C	2-Nitroaniline	mg/kg	0.12 U	0.12 U	0.13 U	0 13 U
SW8270C	2-Nitrophenol	mg/kg	0.086 U	0.083 U	0.091 U	0 09 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1910 00 ft 2001-08-22	BHGLAOC1910 05 ft 2001-08-22	BHGLAOC1910 10 ft 2001-08-22	BHGLAOC1911 05 ft 2001-12-05
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0.25 U	0.24 U	0 27 U	0.26 U
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0.13 UJ	0.12 U	0 14 U	0.13 U
SW8270C	3,3'-Dimethylbenzidine	mg/kg	0.34 U	0 33 U	0.36 U	0.35 U
SW8270C	3-Methylcholanthrene	mg/kg	0.34 U	0 33 U	0 36 U	0.35 U
SW8270C	3-Nitroaniline	mg/kg	0.16 U	0.15 U	0.16 U	0.16 U
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	0.16 U	0.15 U	0.17 U	0.16 U
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0.32 U	0.31 U	0.34 U	0.33 U
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0 1 U	0 099 U	0 11 U	0.11 U
SW8270C	4-Chloro-3-methylphenol	mg/kg	0 095 U	0.092 U	0.1 U	0 099 U
SW8270C	4-Chloroaniline	mg/kg	0.14 UJ	0.14 U	0 15 U	0.15 U
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0.097 U	0.094 U	0.1 U	0.1 U
SW8270C	4-Methylphenol (P-Cresol)	mg/kg	NA	NA	NA	0.14 U
SW8270C	4-Nitroaniline	mg/kg	0.15 U	0.15 U	0.16 U	0 16 U
SW8270C	4-Nitrophenol	mg/kg	0.41 UJ	0 4 U	0.43 U	0 43 U
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	1.5 R	1 5 R	1.6 R	1.6 U
SW8270C	5-Nitro-o-toluidine	mg/kg	0 34 U	0.33 U	0.37 U	0 36 U
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0.52 U	0 5 U	0 55 U	0 54 U
SW8270C	Acenaphthene	mg/kg	0.059 U	0.057 U	0.063 U	0.13 F
SW8270C	Acenaphthylene	mg/kg	0.061 U	0.059 U	0.065 U	0.064 U
SW8270C	Acetophenone	mg/kg	0.31 U	0 3 U	0 33 U	0.33 U
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	1 6 U	1 6 U	1.7 U	1.7 U
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0.12 U	0.11 U	0 13 U	0.12 U
SW8270C	Anthracene	mg/kg	0.081 U	0.079 U	0.086 U	0 23 F
SW8270C	Aramite (total)	mg/kg	0.39 U	0 38 U	0.42 U	0.41 U
SW8270C	Benzo(a)anthracene	mg/kg	0.059 U	0.057 U	0.063 U	0.65
SW8270C	Benzo(a)pyrene	mg/kg	0.065 U	0.077 F	0.069 U	0.58 J
SW8270C	Benzo(b)fluoranthene	mg/kg	0 12 U	0 12 U	0.13 U	0.67
SW8270C	Benzo(g,h,i)perylene	mg/kg	0 17 U	0 16 U	0.18 U	0.3 F
SW8270C	Benzo(k)fluoranthene	mg/kg	0 13 R	0 12 R	0.14 R	0.47
SW8270C	Benzoic acid	mg/kg	0 19 R	0.18 R	0 2 R	0.2 U
SW8270C	Benzyl alcohol	mg/kg	0.11 U	0.11 U	0.12 U	0 12 U
SW8270C	Benzyl butyl phthalate	mg/kg	0 13 U	0.12 U	0.14 U	0 13 U
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0 066 U	0 064 U	0.07 U	0.069 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1910 00 ft 2001-08-22	BHGLAOC1910 05 ft 2001-08-22	BHGLAOC1910 10 ft 2001-08-22	BHGLAOC1911 05 ft 2001-12-05
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.1 U	0.098 U	0.11 U	0.11 U
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0.13 U	0.12 U	0.13 U	0.13 U
SW8270C	Chlorobenzilate	mg/kg	0.26 U	0.25 U	0.27 U	0.27 U
SW8270C	Chrysene	mg/kg	0.045 U	0.043 U	0.047 U	0.74
SW8270C	Cresols, m & p	mg/kg	0.13 U	0.13 U	0.14 U	NA
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0.33 U	0.32 U	0.35 U	0.34 U
SW8270C	Dibenz(a,h)anthracene	mg/kg	0.12 U	0.12 U	0.13 U	0.13 U
SW8270C	Dibenzofuran	mg/kg	0.061 U	0.059 U	0.065 U	0.064 U
SW8270C	Diethyl phthalate	mg/kg	0.11 U	0.1 U	0.11 U	0.11 U
SW8270C	Dimethyl phthalate	mg/kg	0.084 U	0.081 U	0.089 U	0.088 U
SW8270C	Di-n-butyl phthalate	mg/kg	0.08 U	0.078 U	0.085 U	0.084 U
SW8270C	Di-n-octyl phthalate	mg/kg	0.3 U	0.29 U	0.32 U	0.31 U
SW8270C	Dinoseb	mg/kg	0.51 U	0.49 U	0.54 U	0.53 U
SW8270C	Diphenylamine	mg/kg	0.23 U	0.22 U	0.24 U	0.24 U
SW8270C	Ethyl methanesulfonate	mg/kg	0.37 U	0.35 U	0.39 U	0.38 U
SW8270C	Fluoranthene	mg/kg	0.1 U	0.1 U	0.11 U	2.1 J
SW8270C	Fluorene	mg/kg	0.11 U	0.11 U	0.12 U	0.27 F
SW8270C	Hexachlorobenzene	mg/kg	0.079 U	0.077 U	0.084 U	0.083 U
SW8270C	Hexachlorobutadiene	mg/kg	0.077 U	0.075 U	0.082 U	0.081 U
SW8270C	Hexachlorocyclopentadiene	mg/kg	0.14 U	0.13 U	0.14 U	0.14 U
SW8270C	Hexachloroethane	mg/kg	0.087 U	0.084 U	0.092 U	0.091 U
SW8270C	Hexachlorophene	mg/kg	1.5 U	1.4 U	1.5 U	1.5 U
SW8270C	Hexachloropropene	mg/kg	0.33 U	0.32 U	0.36 U	0.35 U
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0.12 U	0.12 U	0.13 U	0.31 F
SW8270C	Isophorone	mg/kg	0.056 U	0.054 U	0.059 U	0.058 U
SW8270C	Isosafrole	mg/kg	0.24 U	0.23 U	0.25 U	0.25 U
SW8270C	Methapyrilene	mg/kg	1.7 U	1.6 U	1.8 U	1.7 U
SW8270C	Methyl methanesulfonate	mg/kg	0.37 U	0.36 U	0.39 U	0.39 U
SW8270C	Naphthalene	mg/kg	0.071 U	0.069 U	0.076 U	0.082 F
SW8270C	Nitrobenzene	mg/kg	0.07 U	0.068 U	0.075 U	0.074 U
SW8270C	N-Nitrosodiethylamine	mg/kg	0.38 U	0.36 U	0.4 U	0.39 U
SW8270C	N-Nitrosodimethylamine	mg/kg	0.12 U	0.12 U	0.13 U	0.13 U
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0.2 U	0.19 U	0.21 U	0.21 U
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0.11 U	0.11 U	0.12 U	0.12 U

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1910 00 ft 2001-08-22	BHGLAOC1910 05 ft 2001-08-22	BHGLAOC1910 10 ft 2001-08-22	BHGLAOC1911 05 ft 2001-12-05
SW8270C	N-Nitrosodiphenylamine	mg/kg	0.12 U	0 12 U	0.13 U	0.13 U
SW8270C	N-Nitrosomethylethylamine	mg/kg	0 58 U	0.56 U	0 62 U	0.61 U
SW8270C	N-Nitrosomorpholine	mg/kg	0 44 U	0 42 U	0.46 U	0.46 U
SW8270C	N-Nitrosopiperidine	mg/kg	0 29 U	0.28 U	0.31 U	0.31 U
SW8270C	N-Nitrosopyrrolidine	mg/kg	0 55 U	0 54 U	0.59 U	0.58 U
SW8270C	o-Toluidine	mg/kg	0 26 U	0.26 U	0.28 U	0.28 U
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0.42 U	0.4 U	0 44 U	0.44 U
SW8270C	Pentachlorobenzene	mg/kg	0.19 U	0 18 U	0.2 U	0.2 U
SW8270C	Pentachloronitrobenzene	mg/kg	0.24 U	0.23 U	0.26 U	0.25 U
SW8270C	Pentachlorophenol	mg/kg	0.21 UJ	0 2 U	0.22 U	0.22 U
SW8270C	Phenacetin	mg/kg	0.43 U	0 42 U	0 46 U	0.45 U
SW8270C	Phenanthrene	mg/kg	0.077 U	0.075 U	0 082 U	1 6 J
SW8270C	Phenol	mg/kg	0.093 U	0.09 U	0.098 U	0 097 U
SW8270C	p-Phenylenediamine	mg/kg	0.9 U	0.87 U	0.95 U	0.94 U
SW8270C	Pronamide	mg/kg	0.46 U	0.44 U	0.48 U	0.48 U
SW8270C	Pyrene	mg/kg	0.16 U	0.15 U	0 17 U	1.3
SW8270C	Pyridine	mg/kg	0.11 U	0 11 U	0 12 U	0 12 U
SW8270C	Safrole	mg/kg	0.21 U	0 2 U	0.22 U	0.22 U

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1911 05 ft 2001-12-05 Dup	BHGLAOC1912 05 ft 2001-12-05	BHGLAOC1912 10 ft 2001-12-05	BHGLAOC1913 05 ft 2001-12-05
SW6010B	Arsenic	mg/kg	NA	NA	NA	NA
SW6010B	Barium	mg/kg	NA	NA	NA	NA
SW6010B	Beryllium	mg/kg	NA	NA	NA	NA
SW6010B	Cadmium	mg/kg	NA	NA	NA	NA
SW6010B	Chromium, total	mg/kg	NA	NA	NA	NA
SW6010B	Cobalt	mg/kg	NA	NA	NA	NA
SW6010B	Copper	mg/kg	NA	NA	NA	NA
SW6010B	Nickel	mg/kg	NA	NA	NA	NA
SW6010B	Tin	mg/kg	NA	NA	NA	NA
SW6010B	Vanadium	mg/kg	NA	NA	NA	NA
SW6010B	Zinc	mg/kg	NA	NA	NA	NA
SW7041	Antimony	mg/kg	NA	NA	NA	NA
SW7421	Lead	mg/kg	NA	NA	NA	NA
SW7471A	Mercury	mg/kg	NA	NA	NA	NA
SW7740	Selenium	mg/kg	NA	NA	NA	NA
SW7761	Silver	mg/kg	NA	NA	NA	NA
SW7841	Thallium	mg/kg	NA	NA	NA	NA
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1,1-Trichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1,2-Trichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1-Dichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,1-Dichloroethene	mg/kg	NA	NA	NA	NA
SW8260B	1,2,3-Trichloropropane	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dichloroethane	mg/kg	NA	NA	NA	NA
SW8260B	1,2-Dichloropropane	mg/kg	NA	NA	NA	NA
SW8260B	2-Chloro-1,3-butadiene	mg/kg	NA	NA	NA	NA
SW8260B	2-Hexanone	mg/kg	NA	NA	NA	NA
SW8260B	Acetone	mg/kg	NA	NA	NA	NA
SW8260B	Acetonitrile	mg/kg	NA	NA	NA	NA
SW8260B	Acrolein	mg/kg	NA	NA	NA	NA
SW8260B	Acrylonitrile	mg/kg	NA	NA	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1911 05 ft 2001-12-05 Dup	BHGLAOC1912 05 ft 2001-12-05	BHGLAOC1912 10 ft 2001-12-05	BHGLAOC1913 05 ft 2001-12-05
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	NA	NA	NA	NA
SW8260B	Benzene	mg/kg	NA	NA	NA	NA
SW8260B	Bromodichloromethane	mg/kg	NA	NA	NA	NA
SW8260B	Bromoform	mg/kg	NA	NA	NA	NA
SW8260B	Bromomethane	mg/kg	NA	NA	NA	NA
SW8260B	Carbon disulfide	mg/kg	NA	NA	NA	NA
SW8260B	Carbon tetrachloride	mg/kg	NA	NA	NA	NA
SW8260B	Chlorobenzene	mg/kg	NA	NA	NA	NA
SW8260B	Chloroethane	mg/kg	NA	NA	NA	NA
SW8260B	Chloroform	mg/kg	NA	NA	NA	NA
SW8260B	Chloromethane	mg/kg	NA	NA	NA	NA
SW8260B	cis-1,2-Dichloroethene	mg/kg	NA	NA	NA	NA
SW8260B	cis-1,3-Dichloropropene	mg/kg	NA	NA	NA	NA
SW8260B	Dibromochloromethane	mg/kg	NA	NA	NA	NA
SW8260B	Dibromomethane	mg/kg	NA	NA	NA	NA
SW8260B	Dichlorodifluoromethane	mg/kg	NA	NA	NA	NA
SW8260B	Ethyl methacrylate	mg/kg	NA	NA	NA	NA
SW8260B	Ethylbenzene	mg/kg	NA	NA	NA	NA
SW8260B	Iodomethane (Methyl iodide)	mg/kg	NA	NA	NA	NA
SW8260B	Isobutanol	mg/kg	NA	NA	NA	NA
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	NA	NA	NA	NA
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	NA	NA	NA	NA
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	NA	NA	NA	NA
SW8260B	Methyl methacrylate	mg/kg	NA	NA	NA	NA
SW8260B	Methylacrylonitrile	mg/kg	NA	NA	NA	NA
SW8260B	Methylene chloride	mg/kg	NA	NA	NA	NA
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	NA	NA	NA	NA
SW8260B	Pentachloroethane	mg/kg	NA	NA	NA	NA
SW8260B	Propane nitrile (Propionitrile)	mg/kg	NA	NA	NA	NA
SW8260B	Styrene	mg/kg	NA	NA	NA	NA
SW8260B	Tert-Butyl Methyl Ether	mg/kg	NA	NA	NA	NA
SW8260B	Tetrachloroethene (PCE)	mg/kg	NA	NA	NA	NA
SW8260B	Toluene	mg/kg	NA	NA	NA	NA
SW8260B	Trans-1,2-Dichloroethene	mg/kg	NA	NA	NA	NA

Table E.1
Comprehensive Soil Results
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Method	Analyte	Unit	BHGLAOC1911 05 ft 2001-12-05 Dup	BHGLAOC1912 05 ft 2001-12-05	BHGLAOC1912 10 ft 2001-12-05	BHGLAOC1913 05 ft 2001-12-05
SW8260B	Trans-1,3-Dichloropropene	mg/kg	NA	NA	NA	NA
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	NA	NA	NA	NA
SW8260B	Trichloroethene (TCE)	mg/kg	NA	NA	NA	0.051 J
SW8260B	Trichlorofluoromethane	mg/kg	NA	NA	NA	NA
SW8260B	Vinyl acetate	mg/kg	NA	NA	NA	NA
SW8260B	Vinyl chloride	mg/kg	NA	NA	NA	NA
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	0.22 U	0.22 U	0.21 U	NA
SW8270C	1,2,4-Trichlorobenzene	mg/kg	0.058 U	0.058 U	0.056 U	NA
SW8270C	1,2-Dichlorobenzene	mg/kg	0.1 U	0.1 U	0.099 U	NA
SW8270C	1,3,5-Trinitrobenzene	mg/kg	0.87 U	0.87 U	0.85 U	NA
SW8270C	1,3-Dichlorobenzene	mg/kg	0.11 U	0.11 U	0.11 U	NA
SW8270C	1,3-Dinitrobenzene	mg/kg	0.4 U	0.4 U	0.39 U	NA
SW8270C	1,4-Dichlorobenzene	mg/kg	0.087 U	0.088 U	0.085 U	NA
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	0.95 U	0.96 U	0.92 U	NA
SW8270C	1,4-Naphthoquinone	mg/kg	1.4 U	1.4 U	1.4 U	NA
SW8270C	1-Naphthylamine	mg/kg	0.6 U	0.61 U	0.59 U	NA
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	0.2 U	0.2 U	0.2 U	NA
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	0.33 U	0.33 U	0.32 U	NA
SW8270C	2,4,5-Trichlorophenol	mg/kg	0.079 U	0.079 U	0.077 U	NA
SW8270C	2,4,6-Trichlorophenol	mg/kg	0.08 U	0.081 U	0.078 U	NA
SW8270C	2,4-Dichlorophenol	mg/kg	0.067 U	0.068 U	0.065 U	NA
SW8270C	2,4-Dimethylphenol	mg/kg	0.26 U	0.26 U	0.26 U	NA
SW8270C	2,4-Dinitrophenol	mg/kg	0.23 U	0.23 U	0.23 U	NA
SW8270C	2,4-Dinitrotoluene	mg/kg	0.087 U	0.088 U	0.085 U	NA
SW8270C	2,6-Dichlorophenol	mg/kg	0.26 U	0.26 U	0.25 U	NA
SW8270C	2,6-Dinitrotoluene	mg/kg	0.092 U	0.093 U	0.089 U	NA
SW8270C	2-Acetylaminofluorene	mg/kg	0.63 U	0.64 U	0.62 U	NA
SW8270C	2-Aminonaphthalene (beta-Naphthylamine)	mg/kg	0.61 U	0.61 U	0.59 U	NA
SW8270C	2-Chloronaphthalene	mg/kg	0.064 U	0.064 U	0.062 U	NA
SW8270C	2-Chlorophenol	mg/kg	0.081 U	0.082 U	0.079 U	NA
SW8270C	2-Methylnaphthalene	mg/kg	0.28 U	0.28 U	0.27 U	NA
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	0.15 U	0.15 U	0.14 U	NA
SW8270C	2-Nitroaniline	mg/kg	0.13 U	0.13 U	0.12 U	NA
SW8270C	2-Nitrophenol	mg/kg	0.091 U	0.091 U	0.088 U	NA

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Table E.1
Comprehensive Soil Results
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Method	Analyte	Unit	BHGLAOC1911 05 ft 2001-12-05 Dup	BHGLAOC1912 05 ft 2001-12-05	BHGLAOC1912 10 ft 2001-12-05	BHGLAOC1913 05 ft 2001-12-05
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	0 26 U	0.27 U	0.26 U	NA
SW8270C	3,3'-Dichlorobenzidine	mg/kg	0 13 U	0.14 U	0.13 U	NA
SW8270C	3,3'-Dimethylbenzidine	mg/kg	0.36 U	0 36 U	0 35 U	NA
SW8270C	3-Methylcholanthrene	mg/kg	0 36 U	0.36 U	0.35 U	NA
SW8270C	3-Nitroaniline	mg/kg	0.16 U	0.16 U	0.16 U	NA
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	0.17 U	0 17 U	0.16 U	NA
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	0 34 U	0.34 U	0 33 U	NA
SW8270C	4-Bromophenyl phenyl ether	mg/kg	0.11 U	0 11 U	0 11 U	NA
SW8270C	4-Chloro-3-methylphenol	mg/kg	0.1 U	0.1 U	0.097 U	NA
SW8270C	4-Chloroaniline	mg/kg	0.15 U	0.15 U	0.15 U	NA
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	0 1 U	0.1 U	0.1 U	NA
SW8270C	4-Methylphenol (P-Cresol)	mg/kg	0.14 U	0.14 U	0.14 U	NA
SW8270C	4-Nitroaniline	mg/kg	0.16 U	0.16 U	0.15 U	NA
SW8270C	4-Nitrophenol	mg/kg	0.43 U	0.43 U	0.42 U	NA
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	1 6 U	1.6 U	1.6 U	NA
SW8270C	5-Nitro-o-toluidine	mg/kg	0.36 U	0.37 U	0.35 U	NA
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	0.55 U	0.55 U	0 53 U	NA
SW8270C	Acenaphthene	mg/kg	0 062 U	0 063 U	0 061 U	NA
SW8270C	Acenaphthylene	mg/kg	0.065 U	0.065 U	0.063 U	NA
SW8270C	Acetophenone	mg/kg	0.33 U	0.33 U	0 32 U	NA
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	1.7 U	1.7 U	1.7 U	NA
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	0.12 U	0.13 U	0.12 U	NA
SW8270C	Anthracene	mg/kg	0.086 U	0.087 U	0 084 U	NA
SW8270C	Aramite (total)	mg/kg	0.41 U	0.42 U	0.4 U	NA
SW8270C	Benzo(a)anthracene	mg/kg	0.64	0.063 U	0 061 U	NA
SW8270C	Benzo(a)pyrene	mg/kg	0 82 J	0 069 U	0.067 U	NA
SW8270C	Benzo(b)fluoranthene	mg/kg	0 91	0 13 U	0.12 U	NA
SW8270C	Benzo(g,h,i)perylene	mg/kg	0 52 J	0 18 U	0.17 U	NA
SW8270C	Benzo(k)fluoranthene	mg/kg	0 62	0 14 U	0.13 U	NA
SW8270C	Benzoic acid	mg/kg	0.2 U	0.2 U	0.2 U	NA
SW8270C	Benzyl alcohol	mg/kg	0 12 U	0 12 U	0.12 U	NA
SW8270C	Benzyl butyl phthalate	mg/kg	0.14 U	0 14 U	0.13 U	NA
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	0.069 U	0 07 U	0.068 U	NA

Table E.1
Comprehensive Soil Results
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Method	Analyte	Unit	BHGLAOC1911 05 ft 2001-12-05 Dup	BHGLAOC1912 05 ft 2001-12-05	BHGLAOC1912 10 ft 2001-12-05	BHGLAOC1913 05 ft 2001-12-05
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	0.11 U	0 11 U	0.1 U	NA
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	0.16 F	0.13 U	0.13 U	NA
SW8270C	Chlorobenzilate	mg/kg	0.27 U	0.27 U	0.26 U	NA
SW8270C	Chrysene	mg/kg	0.72	0 047 U	0 046 U	NA
SW8270C	Cresols, m & p	mg/kg	NA	NA	NA	NA
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	0 34 U	0.35 U	0.33 U	NA
SW8270C	Dibenz(a,h)anthracene	mg/kg	0.17 F	0.13 U	0 13 U	NA
SW8270C	Dibenzofuran	mg/kg	0.065 U	0 065 U	0.063 U	NA
SW8270C	Diethyl phthalate	mg/kg	0.11 U	0.11 U	0 11 U	NA
SW8270C	Dimethyl phthalate	mg/kg	0.088 U	0.089 U	0.086 U	NA
SW8270C	Di-n-butyl phthalate	mg/kg	0 085 U	0.085 U	0.083 U	NA
SW8270C	Di-n-octyl phthalate	mg/kg	0.31 U	0.32 U	0.31 U	NA
SW8270C	Dinoseb	mg/kg	0 53 U	0 54 U	0 52 U	NA
SW8270C	Diphenylamine	mg/kg	0 24 U	0 24 U	0.23 U	NA
SW8270C	Ethyl methanesulfonate	mg/kg	0 39 U	0 39 U	0.38 U	NA
SW8270C	Fluoranthene	mg/kg	1.1	0 11 U	0.11 U	NA
SW8270C	Fluorene	mg/kg	0.17 F	0.12 U	0.11 U	NA
SW8270C	Hexachlorobenzene	mg/kg	0 084 U	0 084 U	0 081 U	NA
SW8270C	Hexachlorobutadiene	mg/kg	0 081 U	0 082 U	0 079 U	NA
SW8270C	Hexachlorocyclopentadiene	mg/kg	0.14 U	0.14 U	0.14 U	NA
SW8270C	Hexachloroethane	mg/kg	0.092 U	0.093 U	0.089 U	NA
SW8270C	Hexachlorophene	mg/kg	1.5 U	1.5 U	1.5 U	NA
SW8270C	Hexachloropropene	mg/kg	0 35 U	0 36 U	0.34 U	NA
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5 J	0 13 U	0 13 U	NA
SW8270C	Isophorone	mg/kg	0.059 U	0.059 U	0.057 U	NA
SW8270C	Isosafrole	mg/kg	0.25 U	0.26 U	0.25 U	NA
SW8270C	Methapyrilene	mg/kg	1.7 U	1.8 U	1.7 U	NA
SW8270C	Methyl methanesulfonate	mg/kg	0.39 U	0.4 U	0 38 U	NA
SW8270C	Naphthalene	mg/kg	0.075 U	0.076 U	0.073 U	NA
SW8270C	Nitrobenzene	mg/kg	0.074 U	0.075 U	0.072 U	NA
SW8270C	N-Nitrosodiethylamine	mg/kg	0.4 U	0.4 U	0 39 U	NA
SW8270C	N-Nitrosodimethylamine	mg/kg	0.13 U	0 13 U	0 13 U	NA
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	0.21 U	0 21 U	0.2 U	NA
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	0.12 U	0 12 U	0 12 U	NA

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Table E.1
Comprehensive Soil Results
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Method	Analyte	Unit	BHGLAOC1911 05 ft 2001-12-05 Dup	BHGLAOC1912 05 ft 2001-12-05	BHGLAOC1912 10 ft 2001-12-05	BHGLAOC1913 05 ft 2001-12-05
SW8270C	N-Nitrosodiphenylamine	mg/kg	0.13 U	0.13 U	0.12 U	NA
SW8270C	N-Nitrosomethylethylamine	mg/kg	0.61 U	0.62 U	0.6 U	NA
SW8270C	N-Nitrosomorpholine	mg/kg	0.46 U	0.47 U	0.45 U	NA
SW8270C	N-Nitrosopiperidine	mg/kg	0.31 U	0.31 U	0.3 U	NA
SW8270C	N-Nitrosopyrrolidine	mg/kg	0.58 U	0.59 U	0.57 U	NA
SW8270C	o-Toluidine	mg/kg	0.28 U	0.28 U	0.27 U	NA
SW8270C	p-Dimethylaminoazobenzene	mg/kg	0.44 U	0.44 U	0.43 U	NA
SW8270C	Pentachlorobenzene	mg/kg	0.2 U	0.2 U	0.19 U	NA
SW8270C	Pentachloronitrobenzene	mg/kg	0.25 U	0.26 U	0.25 U	NA
SW8270C	Pentachlorophenol	mg/kg	0.22 U	0.22 U	0.21 U	NA
SW8270C	Phenacetin	mg/kg	0.46 U	0.46 U	0.45 U	NA
SW8270C	Phenanthrene	mg/kg	0.55 J	0.082 U	0.079 U	NA
SW8270C	Phenol	mg/kg	0.098 U	0.098 U	0.095 U	NA
SW8270C	p-Phenylenediamine	mg/kg	0.95 U	0.95 U	0.92 U	NA
SW8270C	Pronamide	mg/kg	0.48 U	0.48 U	0.47 U	NA
SW8270C	Pyrene	mg/kg	1.2	0.17 U	0.16 U	NA
SW8270C	Pyridine	mg/kg	0.12 U	0.12 U	0.12 U	NA
SW8270C	Safrole	mg/kg	0.22 U	0.22 U	0.21 U	NA

Table E.1
Comprehensive Soil Results
AOC 19
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Method	Analyte	Unit	BHGLAOC1913 10 ft 2001-12-05	THGLA0C1905 03 ft 2001-08-15	WHGLTA050 00 ft 2001-02-07	WHGLTA050 05 ft 2001-02-07
SW6010B	Arsenic	mg/kg	NA	3.5 F	NA	NA
SW6010B	Barium	mg/kg	NA	61.2	NA	NA
SW6010B	Beryllium	mg/kg	NA	0.28	NA	NA
SW6010B	Cadmium	mg/kg	NA	0.28 F	NA	NA
SW6010B	Chromium, total	mg/kg	NA	7 2 F	NA	NA
SW6010B	Cobalt	mg/kg	NA	2.4 F	NA	NA
SW6010B	Copper	mg/kg	NA	3 3 F	NA	NA
SW6010B	Nickel	mg/kg	NA	4.3 F	NA	NA
SW6010B	Tin	mg/kg	NA	1.1 F	NA	NA
SW6010B	Vanadium	mg/kg	NA	15 F	NA	NA
SW6010B	Zinc	mg/kg	NA	17 F	NA	NA
SW7041	Antimony	mg/kg	NA	0.18 U	NA	NA
SW7421	Lead	mg/kg	NA	7.9	NA	NA
SW7471A	Mercury	mg/kg	NA	0.0092 F	NA	NA
SW7740	Selenium	mg/kg	NA	0.76 UJ	NA	NA
SW7761	Silver	mg/kg	NA	0 064 UJ	NA	NA
SW7841	Thallium	mg/kg	NA	0.18 UJ	NA	NA
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	NA	0.0008 U	NA	NA
SW8260B	1,1,1-Trichloroethane	mg/kg	NA	0.0007 U	NA	NA
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	NA	0.0007 U	NA	NA
SW8260B	1,1,2-Trichloroethane	mg/kg	NA	0.0008 U	NA	NA
SW8260B	1,1-Dichloroethane	mg/kg	NA	0.001 U	NA	NA
SW8260B	1,1-Dichloroethene	mg/kg	NA	0.001 U	NA	NA
SW8260B	1,2,3-Trichloropropane	mg/kg	NA	0.001 U	NA	NA
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	NA	0.001 R	NA	NA
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	NA	0 0008 U	NA	NA
SW8260B	1,2-Dichloroethane	mg/kg	NA	0 0006 U	NA	NA
SW8260B	1,2-Dichloropropane	mg/kg	NA	0.001 U	NA	NA
SW8260B	2-Chloro-1,3-butadiene	mg/kg	NA	0.0007 U	NA	NA
SW8260B	2-Hexanone	mg/kg	NA	0.002 U	NA	NA
SW8260B	Acetone	mg/kg	NA	0 004 R	NA	NA
SW8260B	Acetonitrile	mg/kg	NA	0.028 U	NA	NA
SW8260B	Acrolein	mg/kg	NA	0.042 U	NA	NA
SW8260B	Acrylonitrile	mg/kg	NA	0 008 U	NA	NA

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Table E.1
Comprehensive Soil Results
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Method	Analyte	Unit	BHGLAOC1913 10 ft 2001-12-05	THGLA0C1905 03 ft 2001-08-15	WHGLTA050 00 ft 2001-02-07	WHGLTA050 05 ft 2001-02-07
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	NA	0.002 U	NA	NA
SW8260B	Benzene	mg/kg	NA	0.0007 U	NA	NA
SW8260B	Bromodichloromethane	mg/kg	NA	0.0007 U	NA	NA
SW8260B	Bromoform	mg/kg	NA	0.001 U	NA	NA
SW8260B	Bromomethane	mg/kg	NA	0.003 R	NA	NA
SW8260B	Carbon disulfide	mg/kg	NA	0.002 U	NA	NA
SW8260B	Carbon tetrachloride	mg/kg	NA	0.0009 U	NA	NA
SW8260B	Chlorobenzene	mg/kg	NA	0.001 U	NA	NA
SW8260B	Chloroethane	mg/kg	NA	0.002 U	NA	NA
SW8260B	Chloroform	mg/kg	NA	0.0007 U	NA	NA
SW8260B	Chloromethane	mg/kg	NA	0.001 U	NA	NA
SW8260B	cis-1,2-Dichloroethene	mg/kg	NA	0.001 U	NA	NA
SW8260B	cis-1,3-Dichloropropene	mg/kg	NA	0.0009 U	NA	NA
SW8260B	Dibromochloromethane	mg/kg	NA	0.0008 U	NA	NA
SW8260B	Dibromomethane	mg/kg	NA	0.0008 U	NA	NA
SW8260B	Dichlorodifluoromethane	mg/kg	NA	0.0008 U	NA	NA
SW8260B	Ethyl methacrylate	mg/kg	NA	0.002 U	NA	NA
SW8260B	Ethylbenzene	mg/kg	NA	0.001 U	NA	NA
SW8260B	Iodomethane (Methyl iodide)	mg/kg	NA	0 004 R	NA	NA
SW8260B	Isobutanol	mg/kg	NA	0 092 U	NA	NA
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	NA	0 002 U	NA	NA
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	NA	0.005 U	NA	NA
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	NA	0.003 U	NA	NA
SW8260B	Methyl methacrylate	mg/kg	NA	0.002 U	NA	NA
SW8260B	Methylacrylonitrile	mg/kg	NA	0.005 U	NA	NA
SW8260B	Methylene chloride	mg/kg	NA	0.002 U	NA	NA
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	NA	0.001 U	NA	NA
SW8260B	Pentachloroethane	mg/kg	NA	0.006 U	NA	NA
SW8260B	Propane nitrile (Propionitrile)	mg/kg	NA	0.021 U	NA	NA
SW8260B	Styrene	mg/kg	NA	0.001 U	NA	NA
SW8260B	Tert-Butyl Methyl Ether	mg/kg	NA	0.0007 U	NA	NA
SW8260B	Tetrachloroethene (PCE)	mg/kg	NA	0.0007 U	NA	NA
SW8260B	Toluene	mg/kg	NA	0.001 U	NA	NA
SW8260B	Trans-1,2-Dichloroethene	mg/kg	NA	0 001 U	NA	NA

Table E.1
Comprehensive Soil Results
AOC 19
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Method	Analyte	Unit	BHGLAOC1913 10 ft 2001-12-05	THGLA0C1905 03 ft 2001-08-15	WHGLTA050 00 ft 2001-02-07	WHGLTA050 05 ft 2001-02-07
SW8260B	Trans-1,3-Dichloropropene	mg/kg	NA	0.0009 U	NA	NA
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	NA	0 002 U	NA	NA
SW8260B	Trichloroethene (TCE)	mg/kg	0.036	0.0006 U	0 006 U	0.002 F
SW8260B	Trichlorofluoromethane	mg/kg	NA	0.0008 U	NA	NA
SW8260B	Vinyl acetate	mg/kg	NA	0.0006 U	NA	NA
SW8260B	Vinyl chloride	mg/kg	NA	0.0008 U	NA	NA
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	NA	0.19 U	NA	NA
SW8270C	1,2,4-Trichlorobenzene	mg/kg	NA	0.051 U	NA	NA
SW8270C	1,2-Dichlorobenzene	mg/kg	NA	0.09 U	NA	NA
SW8270C	1,3,5-Trinitrobenzene	mg/kg	NA	0.77 U	NA	NA
SW8270C	1,3-Dichlorobenzene	mg/kg	NA	0.097 U	NA	NA
SW8270C	1,3-Dinitrobenzene	mg/kg	NA	0.35 U	NA	NA
SW8270C	1,4-Dichlorobenzene	mg/kg	NA	0.077 U	NA	NA
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	NA	0.84 U	NA	NA
SW8270C	1,4-Naphthoquinone	mg/kg	NA	1.3 U	NA	NA
SW8270C	1-Naphthylamine	mg/kg	NA	0.53 U	NA	NA
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	NA	0.18 U	NA	NA
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	NA	0.29 U	NA	NA
SW8270C	2,4,5-Trichlorophenol	mg/kg	NA	0 07 U	NA	NA
SW8270C	2,4,6-Trichlorophenol	mg/kg	NA	0.071 U	NA	NA
SW8270C	2,4-Dichlorophenol	mg/kg	NA	0.059 U	NA	NA
SW8270C	2,4-Dimethylphenol	mg/kg	NA	0.23 U	NA	NA
SW8270C	2,4-Dinitrophenol	mg/kg	NA	0.21 U	NA	NA
SW8270C	2,4-Dinitrotoluene	mg/kg	NA	0.077 U	NA	NA
SW8270C	2,6-Dichlorophenol	mg/kg	NA	0.23 U	NA	NA
SW8270C	2,6-Dinitrotoluene	mg/kg	NA	0.081 U	NA	NA
SW8270C	2-Acetylaminofluorene	mg/kg	NA	0.56 U	NA	NA
SW8270C	2-Aminonaphthalene (beta-Naphthylamine)	mg/kg	NA	0.54 U	NA	NA
SW8270C	2-Chloronaphthalene	mg/kg	NA	0.056 U	NA	NA
SW8270C	2-Chlorophenol	mg/kg	NA	0.072 U	NA	NA
SW8270C	2-Methylnaphthalene	mg/kg	NA	0.25 U	NA	NA
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	NA	0.13 U	NA	NA
SW8270C	2-Nitroaniline	mg/kg	NA	0.11 U	NA	NA
SW8270C	2-Nitrophenol	mg/kg	NA	0.08 U	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1913 10 ft 2001-12-05	THGLA0C1905 03 ft 2001-08-15	WHGLTA050 00 ft 2001-02-07	WHGLTA050 05 ft 2001-02-07
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	NA	0.23 U	NA	NA
SW8270C	3,3'-Dichlorobenzidine	mg/kg	NA	0.12 U	NA	NA
SW8270C	3,3'-Dimethylbenzidine	mg/kg	NA	0 32 U	NA	NA
SW8270C	3-Methylcholanthrene	mg/kg	NA	0 32 U	NA	NA
SW8270C	3-Nitroaniline	mg/kg	NA	0.14 U	NA	NA
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	NA	0.15 U	NA	NA
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	NA	0.3 U	NA	NA
SW8270C	4-Bromophenyl phenyl ether	mg/kg	NA	0.096 U	NA	NA
SW8270C	4-Chloro-3-methylphenol	mg/kg	NA	0.089 U	NA	NA
SW8270C	4-Chloroaniline	mg/kg	NA	0 13 U	NA	NA
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	NA	0.091 U	NA	NA
SW8270C	4-Methylphenol (P-Cresol)	mg/kg	NA	0.12 U	NA	NA
SW8270C	4-Nitroaniline	mg/kg	NA	0 14 U	NA	NA
SW8270C	4-Nitrophenol	mg/kg	NA	0.38 U	NA	NA
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	NA	1.4 U	NA	NA
SW8270C	5-Nitro-o-toluidine	mg/kg	NA	0.32 U	NA	NA
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	NA	0 48 U	NA	NA
SW8270C	Acenaphthene	mg/kg	NA	0.17 F	NA	NA
SW8270C	Acenaphthylene	mg/kg	NA	0 057 U	NA	NA
SW8270C	Acetophenone	mg/kg	NA	0.29 U	NA	NA
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	NA	1.5 U	NA	NA
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	NA	0.11 U	NA	NA
SW8270C	Anthracene	mg/kg	NA	0.38	NA	NA
SW8270C	Aramite (total)	mg/kg	NA	0.37 U	NA	NA
SW8270C	Benzo(a)anthracene	mg/kg	NA	2	NA	NA
SW8270C	Benzo(a)pyrene	mg/kg	NA	1.8	NA	NA
SW8270C	Benzo(b)fluoranthene	mg/kg	NA	2.2	NA	NA
SW8270C	Benzo(g,h,i)perylene	mg/kg	NA	1.3	NA	NA
SW8270C	Benzo(k)fluoranthene	mg/kg	NA	1.4	NA	NA
SW8270C	Benzoic acid	mg/kg	NA	0 18 U	NA	NA
SW8270C	Benzyl alcohol	mg/kg	NA	0.11 U	NA	NA
SW8270C	Benzyl butyl phthalate	mg/kg	NA	0.12 U	NA	NA
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	NA	0.061 U	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1913 10 ft 2001-12-05	THGLA0C1905 03 ft 2001-08-15	WHGLTA050 00 ft 2001-02-07	WHGLTA050 05 ft 2001-02-07
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	NA	0.095 U	NA	NA
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	NA	0 66	NA	NA
SW8270C	Chlorobenzilate	mg/kg	NA	0.24 U	NA	NA
SW8270C	Chrysene	mg/kg	NA	2	NA	NA
SW8270C	Cresols, m & p	mg/kg	NA	NA	NA	NA
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	NA	0.3 U	NA	NA
SW8270C	Dibenz(a,h)anthracene	mg/kg	NA	0.43	NA	NA
SW8270C	Dibenzofuran	mg/kg	NA	0.077 F	NA	NA
SW8270C	Diethyl phthalate	mg/kg	NA	0 099 U	NA	NA
SW8270C	Dimethyl phthalate	mg/kg	NA	0.078 U	NA	NA
SW8270C	Di-n-butyl phthalate	mg/kg	NA	0.075 U	NA	NA
SW8270C	Di-n-octyl phthalate	mg/kg	NA	0.28 U	NA	NA
SW8270C	Dinoseb	mg/kg	NA	0.47 U	NA	NA
SW8270C	Diphenylamine	mg/kg	NA	0.21 U	NA	NA
SW8270C	Ethyl methanesulfonate	mg/kg	NA	0.34 U	NA	NA
SW8270C	Fluoranthene	mg/kg	NA	3.5	NA	NA
SW8270C	Fluorene	mg/kg	NA	0.14 F	NA	NA
SW8270C	Hexachlorobenzene	mg/kg	NA	0.074 U	NA	NA
SW8270C	Hexachlorobutadiene	mg/kg	NA	0.072 U	NA	NA
SW8270C	Hexachlorocyclopentadiene	mg/kg	NA	0.13 U	NA	NA
SW8270C	Hexachloroethane	mg/kg	NA	0 081 U	NA	NA
SW8270C	Hexachlorophene	mg/kg	NA	1.4 U	NA	NA
SW8270C	Hexachloropropene	mg/kg	NA	0.31 U	NA	NA
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	NA	1.1	NA	NA
SW8270C	Isophorone	mg/kg	NA	0.052 U	NA	NA
SW8270C	Isosafrole	mg/kg	NA	0 22 U	NA	NA
SW8270C	Methapyrilene	mg/kg	NA	1.5 U	NA	NA
SW8270C	Methyl methanesulfonate	mg/kg	NA	0 35 U	NA	NA
SW8270C	Naphthalene	mg/kg	NA	0 067 U	NA	NA
SW8270C	Nitrobenzene	mg/kg	NA	0.066 U	NA	NA
SW8270C	N-Nitrosodiethylamine	mg/kg	NA	0.35 U	NA	NA
SW8270C	N-Nitrosodimethylamine	mg/kg	NA	0.11 U	NA	NA
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	NA	0.18 U	NA	NA
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	NA	0.11 U	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	BHGLAOC1913 10 ft 2001-12-05	THGLA0C1905 03 ft 2001-08-15	WHGLTA050 00 ft 2001-02-07	WHGLTA050 05 ft 2001-02-07
SW8270C	N-Nitrosodiphenylamine	mg/kg	NA	0.11 U	NA	NA
SW8270C	N-Nitrosomethylethylamine	mg/kg	NA	0.54 U	NA	NA
SW8270C	N-Nitrosomorpholine	mg/kg	NA	0 41 U	NA	NA
SW8270C	N-Nitrosopiperidine	mg/kg	NA	0.27 U	NA	NA
SW8270C	N-Nitrosopyrrolidine	mg/kg	NA	0 52 U	NA	NA
SW8270C	o-Toluidine	mg/kg	NA	0 25 U	NA	NA
SW8270C	p-Dimethylaminoazobenzene	mg/kg	NA	0.39 U	NA	NA
SW8270C	Pentachlorobenzene	mg/kg	NA	0.18 U	NA	NA
SW8270C	Pentachloronitrobenzene	mg/kg	NA	0.23 U	NA	NA
SW8270C	Pentachlorophenol	mg/kg	NA	0.19 U	NA	NA
SW8270C	Phenacetin	mg/kg	NA	0.41 U	NA	NA
SW8270C	Phenanthrene	mg/kg	NA	2.1	NA	NA
SW8270C	Phenol	mg/kg	NA	0 086 U	NA	NA
SW8270C	p-Phenylenediamine	mg/kg	NA	0.84 U	NA	NA
SW8270C	Pronamide	mg/kg	NA	0.43 U	NA	NA
SW8270C	Pyrene	mg/kg	NA	3.6	NA	NA
SW8270C	Pyridine	mg/kg	NA	0 11 U	NA	NA
SW8270C	Safrole	mg/kg	NA	0 19 U	NA	NA

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	WHGLTA051 00 ft 2001-02-07	WHGLTA051 05 ft 2001-02-07	WHGLTA052 05 ft 2001-02-07
SW6010B	Arsenic	mg/kg	NA	NA	NA
SW6010B	Barium	mg/kg	NA	NA	NA
SW6010B	Beryllium	mg/kg	NA	NA	NA
SW6010B	Cadmium	mg/kg	NA	NA	NA
SW6010B	Chromium, total	mg/kg	NA	NA	NA
SW6010B	Cobalt	mg/kg	NA	NA	NA
SW6010B	Copper	mg/kg	NA	NA	NA
SW6010B	Nickel	mg/kg	NA	NA	NA
SW6010B	Tin	mg/kg	NA	NA	NA
SW6010B	Vanadium	mg/kg	NA	NA	NA
SW6010B	Zinc	mg/kg	NA	NA	NA
SW7041	Antimony	mg/kg	NA	NA	NA
SW7421	Lead	mg/kg	NA	NA	NA
SW7471A	Mercury	mg/kg	NA	NA	NA
SW7740	Selenium	mg/kg	NA	NA	NA
SW7761	Silver	mg/kg	NA	NA	NA
SW7841	Thallium	mg/kg	NA	NA	NA
SW8260B	1,1,1,2-Tetrachloroethane	mg/kg	NA	NA	NA
SW8260B	1,1,1-Trichloroethane	mg/kg	NA	NA	NA
SW8260B	1,1,2,2-Tetrachloroethane	mg/kg	NA	NA	NA
SW8260B	1,1,2-Trichloroethane	mg/kg	NA	NA	NA
SW8260B	1,1-Dichloroethane	mg/kg	NA	NA	NA
SW8260B	1,1-Dichloroethene	mg/kg	NA	NA	NA
SW8260B	1,2,3-Trichloropropane	mg/kg	NA	NA	NA
SW8260B	1,2-Dibromo-3-chloropropane	mg/kg	NA	NA	NA
SW8260B	1,2-Dibromoethane (Ethylene dibromide)	mg/kg	NA	NA	NA
SW8260B	1,2-Dichloroethane	mg/kg	NA	NA	NA
SW8260B	1,2-Dichloropropane	mg/kg	NA	NA	NA
SW8260B	2-Chloro-1,3-butadiene	mg/kg	NA	NA	NA
SW8260B	2-Hexanone	mg/kg	NA	NA	NA
SW8260B	Acetone	mg/kg	NA	NA	NA
SW8260B	Acetonitrile	mg/kg	NA	NA	NA
SW8260B	Acrolein	mg/kg	NA	NA	NA
SW8260B	Acrylonitrile	mg/kg	NA	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	WHGLTA051 00 ft 2001-02-07	WHGLTA051 05 ft 2001-02-07	WHGLTA052 05 ft 2001-02-07
SW8260B	Allyl chloride (3-Chloropropene)	mg/kg	NA	NA	NA
SW8260B	Benzene	mg/kg	NA	NA	NA
SW8260B	Bromodichloromethane	mg/kg	NA	NA	NA
SW8260B	Bromoform	mg/kg	NA	NA	NA
SW8260B	Bromomethane	mg/kg	NA	NA	NA
SW8260B	Carbon disulfide	mg/kg	NA	NA	NA
SW8260B	Carbon tetrachloride	mg/kg	NA	NA	NA
SW8260B	Chlorobenzene	mg/kg	NA	NA	NA
SW8260B	Chloroethane	mg/kg	NA	NA	NA
SW8260B	Chloroform	mg/kg	NA	NA	NA
SW8260B	Chloromethane	mg/kg	NA	NA	NA
SW8260B	cis-1,2-Dichloroethene	mg/kg	NA	NA	NA
SW8260B	cis-1,3-Dichloropropene	mg/kg	NA	NA	NA
SW8260B	Dibromochloromethane	mg/kg	NA	NA	NA
SW8260B	Dibromomethane	mg/kg	NA	NA	NA
SW8260B	Dichlorodifluoromethane	mg/kg	NA	NA	NA
SW8260B	Ethyl methacrylate	mg/kg	NA	NA	NA
SW8260B	Ethylbenzene	mg/kg	NA	NA	NA
SW8260B	Iodomethane (Methyl iodide)	mg/kg	NA	NA	NA
SW8260B	Isobutanol	mg/kg	NA	NA	NA
SW8260B	m,p-Xylene (sum of isomers)	mg/kg	NA	NA	NA
SW8260B	Methyl ethyl ketone (2-Butanone)	mg/kg	NA	NA	NA
SW8260B	Methyl isobutyl ketone (4-Methyl-2-pentanone)	mg/kg	NA	NA	NA
SW8260B	Methyl methacrylate	mg/kg	NA	NA	NA
SW8260B	Methylacrylonitrile	mg/kg	NA	NA	NA
SW8260B	Methylene chloride	mg/kg	NA	NA	NA
SW8260B	o-Xylene (1,2-Dimethylbenzene)	mg/kg	NA	NA	NA
SW8260B	Pentachloroethane	mg/kg	NA	NA	NA
SW8260B	Propane nitrile (Propionitrile)	mg/kg	NA	NA	NA
SW8260B	Styrene	mg/kg	NA	NA	NA
SW8260B	Tert-Butyl Methyl Ether	mg/kg	NA	NA	NA
SW8260B	Tetrachloroethene (PCE)	mg/kg	NA	NA	NA
SW8260B	Toluene	mg/kg	NA	NA	NA
SW8260B	Trans-1,2-Dichloroethene	mg/kg	NA	NA	NA

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	WHGLTA051 00 ft 2001-02-07	WHGLTA051 05 ft 2001-02-07	WHGLTA052 05 ft 2001-02-07
SW8260B	Trans-1,3-Dichloropropene	mg/kg	NA	NA	NA
SW8260B	Trans-1,4-Dichloro-2-Butene	mg/kg	NA	NA	NA
SW8260B	Trichloroethene (TCE)	mg/kg	0.004 U	0.001 F	0.004 U
SW8260B	Trichlorofluoromethane	mg/kg	NA	NA	NA
SW8260B	Vinyl acetate	mg/kg	NA	NA	NA
SW8260B	Vinyl chloride	mg/kg	NA	NA	NA
SW8270C	1,2,4,5-Tetrachlorobenzene	mg/kg	NA	NA	NA
SW8270C	1,2,4-Trichlorobenzene	mg/kg	NA	NA	NA
SW8270C	1,2-Dichlorobenzene	mg/kg	NA	NA	NA
SW8270C	1,3,5-Trinitrobenzene	mg/kg	NA	NA	NA
SW8270C	1,3-Dichlorobenzene	mg/kg	NA	NA	NA
SW8270C	1,3-Dinitrobenzene	mg/kg	NA	NA	NA
SW8270C	1,4-Dichlorobenzene	mg/kg	NA	NA	NA
SW8270C	1,4-Dioxane (p-Dioxane)	mg/kg	NA	NA	NA
SW8270C	1,4-Naphthoquinone	mg/kg	NA	NA	NA
SW8270C	1-Naphthylamine	mg/kg	NA	NA	NA
SW8270C	2,2'-Oxybis(1-chloropropane)	mg/kg	NA	NA	NA
SW8270C	2,3,4,6-Tetrachlorophenol	mg/kg	NA	NA	NA
SW8270C	2,4,5-Trichlorophenol	mg/kg	NA	NA	NA
SW8270C	2,4,6-Trichlorophenol	mg/kg	NA	NA	NA
SW8270C	2,4-Dichlorophenol	mg/kg	NA	NA	NA
SW8270C	2,4-Dimethylphenol	mg/kg	NA	NA	NA
SW8270C	2,4-Dinitrophenol	mg/kg	NA	NA	NA
SW8270C	2,4-Dinitrotoluene	mg/kg	NA	NA	NA
SW8270C	2,6-Dichlorophenol	mg/kg	NA	NA	NA
SW8270C	2,6-Dinitrotoluene	mg/kg	NA	NA	NA
SW8270C	2-Acetylaminofluorene	mg/kg	NA	NA	NA
SW8270C	2-Aminonaphthalene (beta-Naphthylamine)	mg/kg	NA	NA	NA
SW8270C	2-Chloronaphthalene	mg/kg	NA	NA	NA
SW8270C	2-Chlorophenol	mg/kg	NA	NA	NA
SW8270C	2-Methylnaphthalene	mg/kg	NA	NA	NA
SW8270C	2-Methylphenol (o-Cresol)	mg/kg	NA	NA	NA
SW8270C	2-Nitroaniline	mg/kg	NA	NA	NA
SW8270C	2-Nitrophenol	mg/kg	NA	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	WHGLTA051 00 ft 2001-02-07	WHGLTA051 05 ft 2001-02-07	WHGLTA052 05 ft 2001-02-07
SW8270C	2-Picoline (alpha-Picoline)	mg/kg	NA	NA	NA
SW8270C	3,3'-Dichlorobenzidine	mg/kg	NA	NA	NA
SW8270C	3,3'-Dimethylbenzidine	mg/kg	NA	NA	NA
SW8270C	3-Methylcholanthrene	mg/kg	NA	NA	NA
SW8270C	3-Nitroaniline	mg/kg	NA	NA	NA
SW8270C	4,6-Dinitro-2-methylphenol	mg/kg	NA	NA	NA
SW8270C	4-Aminobiphenyl (4-Biphenylamine)	mg/kg	NA	NA	NA
SW8270C	4-Bromophenyl phenyl ether	mg/kg	NA	NA	NA
SW8270C	4-Chloro-3-methylphenol	mg/kg	NA	NA	NA
SW8270C	4-Chloroaniline	mg/kg	NA	NA	NA
SW8270C	4-Chlorophenyl phenyl ether	mg/kg	NA	NA	NA
SW8270C	4-Methylphenol (P-Cresol)	mg/kg	NA	NA	NA
SW8270C	4-Nitroaniline	mg/kg	NA	NA	NA
SW8270C	4-Nitrophenol	mg/kg	NA	NA	NA
SW8270C	4-Nitroquinoline-1-oxide	mg/kg	NA	NA	NA
SW8270C	5-Nitro-o-toluidine	mg/kg	NA	NA	NA
SW8270C	7,12-Dimethylbenzo(a)anthracene	mg/kg	NA	NA	NA
SW8270C	Acenaphthene	mg/kg	NA	NA	NA
SW8270C	Acenaphthylene	mg/kg	NA	NA	NA
SW8270C	Acetophenone	mg/kg	NA	NA	NA
SW8270C	alpha, alpha-Dimethylphenethylamine	mg/kg	NA	NA	NA
SW8270C	Aniline (Phenylamine, Aminobenzene)	mg/kg	NA	NA	NA
SW8270C	Anthracene	mg/kg	NA	NA	NA
SW8270C	Aramite (total)	mg/kg	NA	NA	NA
SW8270C	Benzo(a)anthracene	mg/kg	NA	NA	NA
SW8270C	Benzo(a)pyrene	mg/kg	NA	NA	NA
SW8270C	Benzo(b)fluoranthene	mg/kg	NA	NA	NA
SW8270C	Benzo(g,h,i)perylene	mg/kg	NA	NA	NA
SW8270C	Benzo(k)fluoranthene	mg/kg	NA	NA	NA
SW8270C	Benzoic acid	mg/kg	NA	NA	NA
SW8270C	Benzyl alcohol	mg/kg	NA	NA	NA
SW8270C	Benzyl butyl phthalate	mg/kg	NA	NA	NA
SW8270C	bis(2-Chloroethoxy)methane	mg/kg	NA	NA	NA

Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	WHGLTA051 00 ft 2001-02-07	WHGLTA051 05 ft 2001-02-07	WHGLTA052 05 ft 2001-02-07
SW8270C	bis(2-Chloroethyl)ether (2-Chloroethyl ether)	mg/kg	NA	NA	NA
SW8270C	bis(2-Ethylhexyl)phthalate	mg/kg	NA	NA	NA
SW8270C	Chlorobenzilate	mg/kg	NA	NA	NA
SW8270C	Chrysene	mg/kg	NA	NA	NA
SW8270C	Cresols, m & p	mg/kg	NA	NA	NA
SW8270C	Diallate (total of cis and trans isomers)	mg/kg	NA	NA	NA
SW8270C	Dibenz(a,h)anthracene	mg/kg	NA	NA	NA
SW8270C	Dibenzofuran	mg/kg	NA	NA	NA
SW8270C	Diethyl phthalate	mg/kg	NA	NA	NA
SW8270C	Dimethyl phthalate	mg/kg	NA	NA	NA
SW8270C	Di-n-butyl phthalate	mg/kg	NA	NA	NA
SW8270C	Di-n-octyl phthalate	mg/kg	NA	NA	NA
SW8270C	Dinoseb	mg/kg	NA	NA	NA
SW8270C	Diphenylamine	mg/kg	NA	NA	NA
SW8270C	Ethyl methanesulfonate	mg/kg	NA	NA	NA
SW8270C	Fluoranthene	mg/kg	NA	NA	NA
SW8270C	Fluorene	mg/kg	NA	NA	NA
SW8270C	Hexachlorobenzene	mg/kg	NA	NA	NA
SW8270C	Hexachlorobutadiene	mg/kg	NA	NA	NA
SW8270C	Hexachlorocyclopentadiene	mg/kg	NA	NA	NA
SW8270C	Hexachloroethane	mg/kg	NA	NA	NA
SW8270C	Hexachlorophene	mg/kg	NA	NA	NA
SW8270C	Hexachloropropene	mg/kg	NA	NA	NA
SW8270C	Indeno(1,2,3-c,d)pyrene	mg/kg	NA	NA	NA
SW8270C	Isophorone	mg/kg	NA	NA	NA
SW8270C	Isosafrole	mg/kg	NA	NA	NA
SW8270C	Methapyrilene	mg/kg	NA	NA	NA
SW8270C	Methyl methanesulfonate	mg/kg	NA	NA	NA
SW8270C	Naphthalene	mg/kg	NA	NA	NA
SW8270C	Nitrobenzene	mg/kg	NA	NA	NA
SW8270C	N-Nitrosodiethylamine	mg/kg	NA	NA	NA
SW8270C	N-Nitrosodimethylamine	mg/kg	NA	NA	NA
SW8270C	N-Nitrosodi-n-butylamine	mg/kg	NA	NA	NA
SW8270C	N-Nitrosodi-n-propylamine	mg/kg	NA	NA	NA

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Table E.1
Comprehensive Soil Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	WHGLTA051 00 ft 2001-02-07	WHGLTA051 05 ft 2001-02-07	WHGLTA052 05 ft 2001-02-07
SW8270C	N-Nitrosodiphenylamine	mg/kg	NA	NA	NA
SW8270C	N-Nitrosomethylethylamine	mg/kg	NA	NA	NA
SW8270C	N-Nitrosomorpholine	mg/kg	NA	NA	NA
SW8270C	N-Nitrosopiperidine	mg/kg	NA	NA	NA
SW8270C	N-Nitrosopyrrolidine	mg/kg	NA	NA	NA
SW8270C	o-Toluidine	mg/kg	NA	NA	NA
SW8270C	p-Dimethylaminoazobenzene	mg/kg	NA	NA	NA
SW8270C	Pentachlorobenzene	mg/kg	NA	NA	NA
SW8270C	Pentachloronitrobenzene	mg/kg	NA	NA	NA
SW8270C	Pentachlorophenol	mg/kg	NA	NA	NA
SW8270C	Phenacetin	mg/kg	NA	NA	NA
SW8270C	Phenanthrene	mg/kg	NA	NA	NA
SW8270C	Phenol	mg/kg	NA	NA	NA
SW8270C	p-Phenylenediamine	mg/kg	NA	NA	NA
SW8270C	Pronamide	mg/kg	NA	NA	NA
SW8270C	Pyrene	mg/kg	NA	NA	NA
SW8270C	Pyridine	mg/kg	NA	NA	NA
SW8270C	Safrole	mg/kg	NA	NA	NA

Table E.2
Comprehensive Groundwater Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	WHGLTA004 2001-02-22	WHGLTA004 2001-03-26	WHGLTA004 2001-06-15	WHGLTA050 2001-02-21	WHGLTA050 2001-04-06
SW8260B	Trichloroethene (TCE)	mg/L	0.53	0.45	0.66	0.15 J	0.17

Table E.2
Comprehensive Groundwater Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	WHGLTA050 2001-06-15	WHGLTA051 2001-02-22	WHGLTA051 2001-04-06	WHGLTA051 2001-06-15	WHGLTA052 2001-02-22
SW8260B	Trichloroethene (TCE)	mg/L	0.26	0.19	0 17	0.31	0.3

Table E.2
Comprehensive Groundwater Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	WHGLTA052 2001-04-06	WHGLTA052 2001-06-26	WHGLTA801 2001-02-22	WHGLTA801 2001-02-22 Dup	WHGLTA801 2001-04-06
SW8260B	Trichloroethene (TCE)	mg/L	0.3	0.57	0.36	0.26	0 15

724 270

Table E.2
Comprehensive Groundwater Results
AOC 19
NAS Fort Worth JRB, Texas

Method	Analyte	Unit	WHGLTA801 2001-04-06 Dup	WHGLTA801 2001-06-14	WHGLTA801 2001-06-14 Dup
SW8260B	Trichloroethene (TCE)	mg/L	0.17	0.32	0.34

APPENDIX F

FIELD FORMS

724 272

TAB

APPENDIX F

BORING LOGS

HYDRO GeoLogic INC

Borehole ID: BHGLAOC1901

Project No: AFC001-26CC
Project: DO26 SI - Phase I
Client: AFCEE
Location: AOC 19 - Suspected FTA-B
Northing:

Date: 5/12/00
Geologist: Jorie Wilson
Ground Surface Elevation:
Easting:

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
0–2.5		*Silty Clay* 10YR 3/2 Silty clay, very stiff, with 5% coarse sand, non-plastic.	602	CL	100%	Dry		
2.5–6		*Sandy Clayey Silt* 10YR 3/2 Clayey silt with 5% coarse sand and pebbles Stiff Grading to 10YR 4/2 at 3 5' with increasing sand and pebbles to 20% at 6'	598	ML	100%	Dry		
6–8		*Sandy Clayey Silt with Gravel* 10YR 5/4 Yellowish brown clayey silt, stiff, slightly plastic, with 20% coarse sand and pebbles, angular to subangular gravel from 7-8'	596	ML	100%	Dry		
8–14		*Sand with Clay* 10YR 6/4 Light yellowish brown poorly sorted sand with clay and 10% subrounded to subangular gravel Increasing clay from 13-14'.	590	SC	100%	Dry		Wet @ 10 5'
					100%	Wet		End of boring 14'

Drilled By ESN-South/John Braden
Drill Method DPT
Drilling Equipment SP-4

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Hole Size. 2"
Total Depth Drilled: 14
Sheet. 1 of 1

724 275

Borehole ID: BHGLAOC1902

Project No: AFC001-26CC
Project: DO26 SI - Phase I
Client: AFCEE
Location: AOC 19 - Suspected FTA-B
Northing:

Date: 5/15/00
Geologist: Jorie Wilson
Ground Surface Elevation:
Easting:

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
0–2.5		*Silty Clay* 10YR 3/2 Silty clay, very stiff, with 5% coarse sand, non-plastic	599	CL	100%	Dry		Sample collected BHGLAOC1902-01 @ 1'
2.5–8		*Sandy Clayey Silt with Pebbles* 10YR 3/2 Clayey silt with 30% coarse sand and pebbles Subrounded to subangular gravel at 5% Coarse sand and pebbles decrease to 10% from 7 to 8'	594	GM	100%	Dry		Sample collected BHGLAOC1902-02 @ 5'
					100%	Dry		
8–10.5		*Silty Sand* 2 5Y 7/3 Pale yellow coarse silty sand with subrounded to rounded pebbles and some clay	591	SM	75%	Wet		Wet @ 9 5'
10.5–11		*Gravel* 2 5YR Angular fossiliferous gravel	591	GP				End of boring 11'

Drilled By: ESN-South/John Braden
Drill Method. DPT
Drilling Equipment SP-4

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Hole Size: 2"
Total Depth Drilled: 11
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-26CC
Project: DO26 SI - Phase I
Client: AFCEE
Location: AOC 19 - Suspected FTA-B
Northing:

Borehole ID: BHGLAOC1903
Date: 5/15/00
Geologist: Jorie Wilson
Ground Surface Elevation:
Easting:

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–1		*Clayey Silt with Sand* 10YR 3/2 Clayey silt with coarse sand and pebbles (10%), stiff	598	ML	80%	Dry		Sample collected BHGLAOC1903-01 @ 1'
1–6		*Silty Clay with Sand* 10YR 6/3 Pale brown silty clay Stiff, with coarse sand and pebbles (10%) Medium to coarse sand (20%) from 5-6'	593	CL	100%	Dry		Sample collected BHGLAOC1903-02 @ 5'
6–8		*Sandy Pebbly Clay* 10YR 7/6 Yellow poorly sorted sandy, pebbly (50%), clay	591	CL	100%	Moist		Wet @ 8'
8–9		*Clayey Sand with Gravel* 10YR 7/6 Clayey coarse sand with pebbles and subrounded to subangular gravel (50%)	590	SC	60%	Wet		
9–9.5		*Silty Clay* 10YR 6/6 Brownish yellow silty clay Medium stiff Plastic. Bottom 1" is subangular rock fragments	589	CL				Refusal @ 9 5'

Drilled By: ESN-South/John Braden
Drill Method. DPT
Drilling Equipment SP-4

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Hole Size: 2"
Total Depth Drilled 9 5'
Sheet 1 of 1

724 277

HYDRO GeoLogic INC.

Borehole ID: BHGLAOC1904

Project No: AFC001-26CC

Project: DO26 SI - Phase I

Client: AFCEE

Location: AOC 19 - Suspected FTA-B

Northing:

Date: 5/15/00

Geologist: Jorie Wilson

Ground Surface Elevation:

Easting:

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–3		*Silty Clay With Sand and Pebbles* 10YR 4/1 Dk grey silty clay with coarse sand and pebbles	597	CL	100%	Dry		BHGLAOC1904-01and MS/MSD collected at 1040 at 1'
3–5		*Silty Sand* 10YR 5/2 greyish brown stiff silty sand w/10% coarse sand and pebbles, dry Coarse sand and pebbles increase to 30% from 4 5-5'	595	SM	100%	Dry		
5–6		*Silty Clay* 2 5Y 6/6 olive yellow silty clay, soft, plastic	594	CL				BHGLAOC1904-02 @ 5' collected at 1100
6–8		*Clay With Sand and Pebbles* 10YR 8/1 white clay w/50% medium to coarse sand and pebbles 10YR 6/6 brownish yellow sand mottles at 7'	592	SP	100%	Wet		Wet @ 7'
8–10		*Sand With Pebbles and Clay* 10YR 6/4 light yellowish brown coarse sand with pebbles and clay No clay from 9-10'	590	SP	80%	Wet		Refusal at 10'

Depth scale: 1 2 3 4 5 6 7 8 9 10 11 12

Drilled By: ESN-South/John Braden

Drill Method. DPT

Drilling Equipment SP-4

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Hole Size. 2"

Total Depth Drilled. 10

Sheet 1 of 1

Project No: AFCOO1-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6962878 146

Borehole ID:.BHGLAOC1905
Date: 8/20/2001
Geologist: M Johnston
Ground Surface Elevation: 601 995
Easting: 2295904 395

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silty Clay* Concrete from 0 - 0 25' 10 YR 2/2 very dark brown silty clay, medium stiff, homogeneous	600	CL	100%	Dry	0 0	Collect BHGLAOC1905-01 from 0.25' - 0.75' at 1530
2		*Silty Clay* 10 YR 4/3 brown silty clay with 5% small gravel (subangular to round) 0 2-0 5mm, medium stiff, dry	599	CL				
3		*Gravel* Limestone gravel	598	GP	60%	Dry	0 0	
4 5		*Silty Clay* 10 YR 5/6 yellowish brown silty clay, stiff, dry	596	CL				Collect BHGLAOC1905-02 from 4 75' - 5 25' at 1550
6		*Silty Clay* 10 YR 5/6 yellowish brown silty clay with 10% gravel (2-10mm), stiff, dry	596	CL				
7		*Sand and Gravel* 10 YR 6/4 light yellowish brown poorly sorted sand (fine to medium grained) with 50% gravel (1-30mm), angular limestone	594	GM	60%	Dry Moist	0 0	
8		*Sandy Silty Clay* 10 YR 8/4 yellowish brown silty clay with 30% coarse sand and small gravel (rounded to subrounded), medium stiff, damp to moist	593	CL				
9 10		*Sand* 10 YR 7/6 yellow poorly sorted sand (fine to medium grained) with 15% gravel (round to subround), chert	591	SW	50%	Moist	0 0	Collect BHGLAOC1905-03 from 9.5 - 10' at 1600 Perched water at 10' Refusal at 10.5'
11 12								

Drilled By· ESN
Drill Method DPT
Drilling Equipment. Strataprobe

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Hole Size: 2"
Total Depth Drilled. 10 5'
Sheet 1 of 1

724 279

HYDRO GeoLogic INC.

Project No: AFCOO1-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6962761.843

Borehole ID: BHGLAOC1906

Date: 8/20/2001
Geologist: M Johnston
Ground Surface Elevation: 599.593
Easting: 2295999 029

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–3		*Blind Probe*	597					Southern delineation boring
3–4.25		*Silty Sand* 10 YR 7/1 light gray silty sand (fine to medium grained) with 10% gravel (0 25-1mm), dry	595	SM		Dry	0 0	
4.25–5		*Gravel* Limestone gravel	595	LS				
5–6		*Silty Clay* 10 YR 2/2 dark brown silty clay, mottled with 10 YR 6/4 fine sand and 10% rounded pebbles (0 25-1mm)	594	CL				Collect BHGLAOC1906-02 from 5' - 5 5' at 1435
6–9		*Blind Probe*	591					
9–10		*Sandy Clay with Gravel* 10 YR 4/1 dark gray clay with fine sand and 25% gravel (0 25-1mm) round to subrounded	590	GC		Wet	0 0	Collect BHGLAOC1906-03 from 9.75' - 10 25' at 1450 Perched water at 10'
10–10.5		*Gravel* 10 YR 5/8 yellowish brown gravel, poorly sorted, subangular to subround, wet, chert, quartz, feldspar	589	GP				Refusal at 10 5'

Drilled By ESN
Drill Method DPT
Drilling Equipment Strataprobe

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Hole Size 2"
Total Depth Drilled 10 5'
Sheet. 1 of 1

HYDRO GeoLogic INC.

Project No: AFCOO1-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6963045 976

Borehole ID: BHGLAOC1907

Date: 8/20/2001
Geologist: M Johnston
Ground Surface Elevation: 604 084
Easting: 2296012 436

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–9		*Blind Probe*	595					Confirmation sample of TCE at 10' for BHGLAOC1901
9–12		*Silty Clay with Gravel* Mottled 10 YR 4/4 dark yellowish brown, 10 YR 7/4 very pale brown, and 10 YR 8/1 white silty clay with 25% gravel (0 25-10mm), subround to subangular, medium stiff, damp from 9-11', wet at 11'	592	CL			0 0	Collect BHGLAOC1907-03 from 9 75' - 10 25' at 1400; Perched water at 11'; End boring at 12'

Drilled By: ESN
Drill Method. DPT
Drilling Equipment: Strataprobe

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Hole Size 2"
Total Depth Drilled: 12'
Sheet: 1 of 1

724 281

HYDRO GeoLogic INC.

Project No: AFCOO1-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6962977.164

Borehole ID: BHGLAOC1908

Date: 8/21/2001
Geologist: M. Johnston
Ground Surface Elevation: 603 08
Easting: 2295949 596

Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–1		*Silty Clay* Grass, roots, 10 YR 4/4 dark yellowish brown silty clay, damp, medium soft, medium plastic	603	CL	100%		0 0	Collect BHGLAOC1908-01 from 0-1' at 830
1–2		*Sand* 10 YR 7/4 very pale brown sand, fine to medium grained, moderate sorting	602	SP			Dry	
2–3		*Clay* 10 YR 2/2 very dark brown clay, hard, very dry	600	CL				
3–5		*Silty Clay* 10 YR 3/2 very dark grayish brown silty clay, 5% small gravel, subround to subangular, 1-2mm, calcium nodules	598	CL	100%		Dry	
5–6		*Silty Clay* Same as above, with mottled 10 YR 5/2 grayish brown clay, dry stiff 2" Limestone layer at bottom	597	CL				Collect BHGLAOC1 02 from 4 5' - 5 5' at
6–12		*Clay* 10 YR 5/6 yellowish brown mottled with 5/2 grayish brown clay with 10% small calcium nodules 1-2mm, subrounded, increasing moisture and plasticity with depth	591	CL	80%		Damp / Moist	
9–12				CL	80%		Wet	Collect BHGLAOC1908-03 from 9 5' - 10.5' at 855 Water table at 11' bgs
12–12.5		*Weathered Limestone* Weathered limestone with 5% fossils	591					

Drilled By. ESN
Drill Method DPT
Drilling Equipment Strataprobe

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Hole Size 2"
Total Depth Drilled. 12.5'
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFCOO1-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6963052.561

Borehole ID: BHGLAOC1909

Date: 8/22/2001
Geologist: M Johnston
Ground Surface Elevation: 606.541
Easting: 2295993 924

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–3		*Blind Probe*	604					
3–5		*Silty Sand and Gravel* 10 YR 7/1 light gray silty sand with 50% gravel (1-50mm), subround to angular, dry	602	GM	100%			Collect BHGLAOC1909-02 from 4 5' - 5.5' at 1535
5–6		*Silty Sand and Gravel* Mottled 7 5 YR 5/6 strong brown with 10 YR 7/1 light gray silty sand with 50% gravel	601	GM				Fill material End boring at 6' bgs

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Drilled By ESN
Drill Method DPT
Drilling Equipment: Strataprobe

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Hole Size. 2"
Total Depth Drilled: 6'
Sheet. 1 of 1

724 283

HYDRO GeoLogic INC.

Project No: AFCOO1-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6963080 138

Borehole ID: BHGLAOC1910

Date: 8/22/2001
Geologist: M Johnston
Ground Surface Elevation: 612 536
Easting: 2295977 25

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–2		*Sandy Silty Clay* 7.5 YR 3/4 dark brown sandy silty clay, poorly sorted with 20% gravel (1-50mm), subangular, brittle, hard	611	CL	75%	Dry		Collect BHGLAOC1910-01 and MS/MSD from 0-1' at 1545
2–7		*Silty Sand with Gravel* 10 YR 7/1 light gray silty sand with 50% gravel (1-50mm), fill	606	GM	20%	Dry		Collect BHGLAOC19 02 from 4 5 - 5 5' at
7–8		*Clay* 10 YR 3/4 dark yellowish brown clay, soft, damp, asphalt at 8'	605	CL	50%	Damp		
8–9		*Silty Clay* 2" limestone gravel layer, angular 10-50mm, 10 YR 3/2 very dark grayish brown silty clay with gravel (15%) 1-50mm, subround to subangular, hard, dry	604	CL				
9–11		*Silty Sand with Gravel* 5 Y 5/1 gray silty sand with gravel (50%) angular, 1-40mm, poorly sorted	602	GM	100%	Dry		Collect BHGLAOC1910-03 from 9 5' - 10 5' at 1605
11–12		*Sandy Silt* 10 YR 5/8 yellowish brown mottled with 10 YR 8/1 white sandy silt, dry, brittle, with some well rounded gravel, 10-30mm, hard	601	SM				End boring at 12' bgs

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

Drilled By: ESN
Drill Method: DPT
Drilling Equipment Strataprobe

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Hole Size: 2"
Total Depth Drilled 12'
Sheet: 1 of 1

HydroGeoLogic Inc.

Project No: AFCOO1-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6963066 961

Borehole ID: BHGLAOC1911
Date: 12/05/2001
Geologist: A Karst
Ground Surface Elevation: 606 637
Easting: 2296003.735

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0		*Blind Probe*						
4				GM				
5.5				GM				
9		*Silty Sand and Clay* 10YR 6/6 brownish yellow sandy silty clay, moderate plasticity, damp, medium stiff	598					Collect BHGLAOC1911-03 and DUP04 from 9.5-10 5' at 1140
10					100%	Damp		
11			596					End boring at 11' bgs

Drilled By: ESN
Drill Method. DPT
Drilling Equipment: Strataprobe

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Hole Size: 2"
Total Depth Drilled: 11'
Sheet: 1 of 1

724 285

HYDRO GeoLogic INC.

Project No: AFCOO1-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6963113 194

Borehole ID: BHGLAOC1912
Date: 12/05/2001
Geologist: A Karst
Ground Surface Elevation: 611 104
Easting: 2296037.657

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–4		*Blind Probe*	607					
4–6		*Silty Clay with Gravel* Top 1' gravel fill 10YR 2/2 very dark brown silty clay, soft, high plasticity, 8% sub-angular pebbles (1-4mm)	605	CL	70%	Dry		Collect BHGLAOC1912-02 and MS/MSD from 4.5-5 5' at 1125
6–9		*Blind Probe*	602					
9–11		*Silty Clay with Gravel* 10YR 6/6 brownish yellow silty clay with gravel, friable, low plasticity	600	CL	100%	Dry	0 0	Collect BHGLAOC1912-03 from 9.5-10.5' at 1130 End boring at 11' bgs

Drilled By ESN
Drill Method: DPT
Drilling Equipment Strataprobe

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Hole Size. 2"
Total Depth Drilled 11'
Sheet. 1 of 1

HYDRO GeoLogic INC.

Project No: AFCOO1-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6962755 909

Borehole ID: BHGLAOC1913

Date: 12/05/2001
Geologist: A. Karst
Ground Surface Elevation: 599 538
Easting: 2295995 226

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–4		*Blind Probe*	596					
4–6		*Silty Clay with Gravel* 10YR 2/2 very dark brown silty clay with 4-6mm sub-angular pebbles, high plasticity, slightly damp, medium stiff	594	CL	100%	Damp	0 0	Collect BHGLAOC1913-02 from 4 5-5 5' at 1215
6–9		*Blind Probe*	591					
9–11		*Sand and Gravel* 10YR 6/8 brownish yellow fine to coarse sand and gravel, loose, poorly sorted, moist, gravel is sub-angular to sub-rounded Wet at 10' with well sorted fine sand from 10 to 11'	589	SP	100%	Moist Wet	0.0	Collect BHGLAOC1913-03 from 9 5-10' at 1225 Wet at 10' End boring at 11' bgs

Drilled By. ESN
Drill Method DPT
Drilling Equipment. Strataprobe

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Hole Size: 2"
Total Depth Drilled: 11'
Sheet 1 of 1

724 .287

HYDRO GeoLogic INC.

Project No: AFC001-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB, Texas
Northing: 6963013 359

Borehole ID: WHGLTA050
Date: 2/9/2001
Geologist: M Johnston
Ground Surface Elevation: 599 19
Easting: 2296420.086

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–2		*Silty Clay* Top 2" grass and roots, 10YR 2/2 v dk brown silty clay, damp, medium stiff, roots	597	CL	100%	Moist	0 0	
2–4		*Silty Clay with Gravel* At 2' 10YR 3/4 dk yellowish brown silty clay with 10% small gravel, medium stiff. Gravel is subround and 2-5 mm	595	CL				
4–5		*Clayey Fine Sand* Mottled 10YR 5/6 yellowish brown, 5/2 grayish brown, and 8/1 white poorly sorted clayey fine sand with 5% small gravel abd calcium nodules (2-5mm) Moist in the bottom foot	594	SC				
5–7		*Clayey Fine Sand* 10YR 5/4 yellowish brown clayey fine sand, saturated, with 5% calcium nodules	592	SC	20%	Wet	0 0	

Depth scale: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Drilled By: Dixie Drilling
Drill Method: HSA
Drilling Equipment.

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Hole Size:
Total Depth Drilled 7'
Sheet: 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB, Texas
Northing: 6962894 901

Borehole ID: WHGLTA051

Date: 2/9/2001
Geologist: M Johnston
Ground Surface Elevation: 598 37
Easting: 2296247 122

SUBSURFACE PROFILE					SAMPLE			Remarks
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	
0–2		*Silty Clay* Grass top 2"; 10YR 3/2 v dk grayish brown silty clay, damp, medium stiff, with 5% roots	596	CL				Collect WHGLTA051-01 at 1310 from 0-6" No odor
2–4.5		*Clayey Sand* 10YR 5/4 yellowish brown clayey fine-coarse sand with 3% calcium nodules, damp, medium stiff	594	SC	50%	Damp	0 0	
4.5–7		*Saprolite* Weathered limestone, moist, 10YR 8/1 mottled with 10YR 6/3 pale brown clay with gravel Gravel is 10%, subrounded-subangular, less than 2" Increasing water content - saturated from 5 5' to 7'	591	LS/SC	20%	Moist Wet	0 0	Collect WHGLTA051-02 at 1315 from 4.5-5' No odor Use the auger flights to drill through the saprolite from 5-7' End boring at 7' (bedrock) Set well WHGLTA051 screen from 2-7', filter pack from 1.5-2', seal from 0.5-1 5', grout 0-0.5'

Depth scale: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Drilled By: Dixie Drilling
Drill Method: HSA
Drilling Equipment

HydroGeoLogic, Inc
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size.
Total Depth Drilled: 7'
Sheet 1 of 1

724 289

HydroGeoLogic Inc.

Borehole ID: WHGLTA052

Project No: AFC001-26CC
Project: Phase II SI
Client: AFCEE
Location: NAS FW JRB, Texas
Northing: 6962769 451

Date: 2/9/2001
Geologist: M Johnston
Ground Surface Elevation: 597.12
Easting: 2296098.067

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–2.5		*Silty Clay* Grass top 2", 10YR 3/2 v dk grayish brown silty clay, damp, medium stiff, with 10% roots	595	CL	30%	Damp	0 0	
2.5–4.5		*Clayey Sand* 10YR 5/4 yellowish brown and 10YR 5/2 grayish brown clayey fine-coarse sand, damp	593	SC				
4.5–7		*Saprolite* Weathered limestone, 10YR 8/1 mottled with 10YR 6/3 pale brown clay with gravel Gravel is 15%, subrounded-subangular, wet from 5 5' to 7'	590	LS/SC	15%	Moist Wet	0 0	Collect WHGLTA052-02 at 1420 from 4.5-5' Water table at 5 5', no odor Use the auger flights drill through the saprolite from 5-7' End boring at 7' (bedrock) Set well WHGLTA052, screen from 2-7', filter pack from 1.5-2', seal from 0.5-1 5', grout 0-0 5'

Depth scale: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Drilled By. Dixie Drilling
Drill Method. HSA
Drilling Equipment:

HydroGeoLogic, Inc
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size:
Total Depth Drilled. 7'
Sheet: 1 of 1

HYDRO GeoLogic INC

Project No: AFC001-26CC
Project: Excavation SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6962827.984

Borehole ID: THGLAOC1901
Date: 8/14/2001
Geologist: M Johnston
Ground Surface Elevation: 599.157
Easting: 2296060 224

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
1		*Silty Clay* Grass, roots in 10YR 4/3 brown silty clay with 30% gravel fill (0 25-50mm), subangular to sub round, hard dry	598	CL			0 0	The anomaly is a steel plate, 2'x2 5'x 25". No odor, no stain, the plate was about 0.5' down Once removed used magnetic locator to see if anything else was there - no more anomalies Dry 6" down - nothing else, Backfill
		End of Trench						
2								
3								
4								
5								
6								
7								
8								
9								
10								

Drilled By. Sunbelt
Drill Method: Excavation
Drilling Equipment Trackhoe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 6'x5'x1'
Total Depth Drilled: 1'
Sheet 1 of 1

724 291

HYDRO GeoLogic INC.

Project No: AFC001-26CC
Project: Excavation SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6962804 601

Borehole ID: THGLAOC1902

Date: 8/15/2001
Geologist: M Johnston
Ground Surface Elevation: 600.356
Easting: 2296060 224

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–1.5		*Silty Clay* Grass, roots, with 10 YR 4/3 brown silty clay, dry, hard, with 15% gravel, subround to subangular, 0 25mm-35mm, calcium streaks	599	CL			0 0 0 0	2'x15' rusty scrap piece of metal and 20' of 2" pipe. No stain, odor, or PID detection - backfill after removing pipe and scrap metal Trench location about 20 of A-13 - started there because magnetic locator detected stronger anomaly in that location
1.5–3		*Silty Clay* Mottled 10 YR 7/3 very pale brown with 3/2 very dark grayish brown silty clay with 10% gravel fill, subangular to subround, 0 2mm - 40mm	597	CL			0 0 0 0	
3		*End of Trench*						

Depth scale: 1 2 3 4 5 6 7 8 9 10

Drilled By: Sunbelt
Drill Method Excavation
Drilling Equipment Trackhoe

HydroGeoLogic, Inc
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size. 9'x15'x3'
Total Depth Drilled. 3'
Sheet 1 of 1

HYDRO GeoLogic INC.

Project No: AFC001-26CC
Project: Excavation SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6962801 471

Borehole ID: THGLAOC1903

Date: 8/15/2001
Geologist: M Johnston
Ground Surface Elevation: 600.846
Easting: 2295927 572

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–1.5		*Silty Clay* Grass and roots with 10 YR 5/2 grayish brown silty clay, hard, dry, with 25% gravel fill, subround to subangular, .3mm-45mm	599	CL				Only concrete, barbed wire, and a couple of pieces of wire cable. No odor, stains, or PID detections (all 0 0 ppm) Trench location is about 30' East of W801, where A-13 should be
1.5–2.5		*Silty Clay* 10 YR 3/2 very dark grayish brown and 5/3 brown silty clay with 10% gravel fill (1-30mm), subround to subangular	598	CL				
		End of Trench						

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Drilled By: Sunbelt
Drill Method. Excavation
Drilling Equipment. Trackhoe

HydroGeoLogic, Inc
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 10'x7'x2.5'
Total Depth Drilled: 2.5'
Sheet: 1 of 1

724 293

HYDRO GeoLogic INC.

Borehole ID: THGLAOC1904

Project No: AFC001-26CC
Project: Excavation SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6963002 676

Date: 8/15/2001
Geologist: M Johnston
Ground Surface Elevation: 603 789
Easting: 2295961 437

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–1		*Silty Clay* Grass, roots with 10 YR 7/2 light gray silty clay with 20% gravel (1mm-25mm), subround to subangular, dry, hard	603	CL				Piece of scrap metal and wire cable (took pictures of both) No odor, stains, or PID detections Backfill
1–4.5		*Silty Clay* 10 YR 3/2 very dark grayish brown silty clay, 5% gravel (1mm-15mm), subround to subangular, dry, stiff/hard Damp at bottom	599	CL				
4.5		*End of Trench*						

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Drilled By: Sunbelt
Drill Method. Excavation
Drilling Equipment. Trackhoe

HydroGeoLogic, Inc.
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Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 15'x9'x4 5'
Total Depth Drilled: 4.5'
Sheet: 1 of 1

HydroGeoLogic INC

Borehole ID: THGLAOC1905

Project No: AFC001-26CC
Project: Excavation SI
Client: AFCEE
Location: NAS FW JRB
Northing: 6963048.419

Date: 8/15/2001
Geologist: M Johnston
Ground Surface Elevation: 604 2
Easting: 2296001 747

Depth	Symbol	Description (SUBSURFACE PROFILE)	Elevation	ASTM	Recovery (SAMPLE)	Moisture (SAMPLE)	PID (ppm) (SAMPLE)	Remarks
0–1		*Silty Sandy Clay* Grass, roots in 10 YR 5/3 silty sandy clay, dry, hard, with 25% gravel (1mm-35mm), subangular to subrounded	603	CL				In part of anomaly a-4 (NE lobe) Found landfill debris (bottles, 3 crushed 55 gallon drums, PID = 0 0ppm in drums, no lids, rusty and empty, 2 5gallon buckets, concrete, wire, glass, nails, roofing tar).
2		*Silty Sandy Clay* 10 YR 7/2 light gray and 10 YR 5/3 brown silty sandy clay with construction debris (see remarks), dry, hard	601	CL				
3		*Silty Clay* 10 YR 3/2 very dark grayish brown silty clay, dry, hard	601	CL				Collected THGLAOC1905-02 from 3' at 1225
		End of Trench						IDW sample from stockpile collected at 1235.
4								
5								
6								
7								
8								
9								
10								

Drilled By Sunbelt
Drill Method: Excavation
Drilling Equipment: Trackhoe

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 13'x21'x3'
Total Depth Drilled: 3'

HYDRO GeoLogic INC.

Project No: AFC001-023E

Borehole ID: BHGLTA812

Project: NAS FTW Landfill RFI

Date: 6/2/98

Client: AFCEE

Geologist: Brad Nielsen

Location: LF-8

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–2		***Gravelly Silty Clay*** 7.5Y 6/6 reddish yellow gravelly silty clay, moderate plasticity, poorly sorted	611 87	GL	100%	dry		Asphalt and concrete debris
2–6		***No Recovery*** Blind probe Rock at 2' bgs Drilled through to 6'	607 87		0%	dry		
6–8		***Debris*** Asphalt and concrete debris with some clay and sand	605 87	GC	30%	dry		Landfill material
8–9		***No Recovery***	604 87		0%			Offset boring 10' to north
9–11		***Gravelly Sandy Clay*** 7 5YR 3/2 dark brown gravelly sandy clay, moderate to low plasticity, firm to stiff, poorly sorted	602 87	GL		dry		Asphalt and concrete landfill material
11–13		***Silty Clay*** 7 5YR 2 5/1 black silty clay, high plasticity, stiff, well sorted	600 87	CH		damp		Out of landfill
13–15		***Gravelly Clay*** 7.5YR 4/2 brown gravelly clay with silt, high plasticity, stiff, moderately to poorly sorted	598 87	MH		damp		
15–		***Gravelly Clay*** 7 5YR 5/3 brown gravelly clay with silt, high plasticity, stiff, moderately to poorly		MH				

Drilled By. EDI

Drill Method· DPT

Drilling Equipment XD-2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size· 4"

Total Depth Drilled 23'

724 296

Project No: AFC001-023E

Project: NAS FTW Landfill RFI

Client: AFCEE

Location: LF-8

Borehole ID: BHGLTA812

Date: 6/2/98

Geologist: Brad Nielsen

SUBSURFACE PROFILE					SAMPLE			
Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
17			596 87			moist		
18–19		***Silty Sandy Clay*** 7 5YR 5/4 yellowish brown silty sandy clay, high plasticity, stiff, moderately sorted	594 87	GM		damp		Some gravel from 17 to18'
20–21		***Sandy Clay*** 10YR 5/4 yellowish brown sandy clay with some gravel, high plasticity, stiff, poorly sorted	592 87	MH				Increase in gravel Water at 21 0' bgs
22–23		***Silty Gravel*** 10YR 6/8 brownish yellow silty gravel with some clay, loose to firm, very poorly sorted	590 87	GM		wet		End of boring 23' bgs
24								
25								
26								
27								
28								
29								
30								
31								
32								

Drilled By: EDI

Drill Method: DPT

Drilling Equipment: XD-2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 4"

Total Depth Drilled 23'

HYDRO GeoLogic INC

Project No: AFC001-023E

Borehole ID: BHGLTA814

Project: NAS FTW Landfill RFI

Date: 5/18/98

Client: AFCEE

Geologist: Brad Nielsen

Location: LF-8

Depth	Symbol	Description	Elevation	ASTM	Recovery	Moisture	PID (ppm)	Remarks
0–0.5		***Silty Clay*** 10YR 2/1 black silty clay, stiff	600 85	CL		dry		
0.5–4		***Silty Clay*** 10YR 4/2 dark grayish brown silty clay with 15 - 20% gravel and coarse sand (1/2" dia), stiff	597.35	CL		dry		
4–7		***Silty Clay*** Mottled 10YR 4/1 dark gray and 10YR 4/4 dark yellowish brown silty clay with 15% gravel (up to 1/4" dia) Some gravel up to 1/2" dia near bottom of section	594 35	MH		damp		Collected VOC sample from 5 0 - 5 5' depth
7–10		***Silty Clay*** Mottled 2 5Y 7/6 yellow and 6/1 gray silty clay with some coarse sand and gravel (up to 1/4" dia), high plasticity Increasing moisture with depth	591 35	MH		damp		Collected VOC sample from 9 0 - 9 5' depth
10–11		***Gravelly Clay*** Mottled 2 5Y 7/6 yellow and 6/1 gray gravelly clay, high plasticity, firm. Bottom 4" of section is weathered limestone bedrock	590 35	GC		moist		Refusal at 11 0' bgs

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

Drilled By PSI

Drill Method. DPT

Drilling Equipment. XD-2

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size 2"

Total Depth Drilled: 11'

Sheet. 1 of 1

724 298

Project No: AFC001-024C

Borehole ID: WHGLTA801

Project: NAS Fort Worth JRB

Date: 10/28/99

Client: AFCEE

Geologist: Nielsen/ Webster

Location: LF-8/ SWMU 25

Depth	Symbol	Description (SUBSURFACE PROFILE)	Elevation	ASTM	Recovery (SAMPLE)	Moisture	PID (ppm)	Remarks
0 – 3		***Clayey Gravel*** Clayey gravel, poorly sorted, medium to low plasticity, stiff to loose, dry, 10YR 3/3 dark brown	598 83		80%			Gravelly and grassy surface; 30-40% gravel
3 – 7		***Silty Clay*** Silty clay, moderate sorting, high plasticity, firm, damp, 10YR 3/2 very dark grayish brown	594 83		100% (3–5); 100% (5–7)	Damp		Some small calcareous nodules; Collected WHGLTA801-02 from 5 - 7' at 1150
7 – 9		***Clayey Gravel with Silt*** Clayey gravel with silt, poorly sorted, moderate to low plasticity, moist, 10YR 5/8 yellowish brown	592 83			Moist		
9 – 11		***Silty Gravel*** Silty gravel, poorly sorted, low plasticity, hard, 10YR 6/5 brownish yellow	590 83		50%			Collected WHGLTA801-03 from 10 - 11' at 1210
11 – 12		***Gravelly Sandy Clay*** Gravelly sandy clay, very poorly sorted, moderate plasticity, firm to loose, saturated, 10YR 5/4 yellowish brown	589 83		50%	Sat		
12 – 14		***Clayey Sandy Gravel*** Clayey sandy gravel, very poorly sorted, moderate to low plasticity, firm to loose, saturated, 10YR 5/6 yellowish brown	587 83		75%	Sat		
14 – 14.5		***Clay Shale*** Clay shale, very hard, dry, gley1 4/1 dark gray	587 33					Bedrock at 14 5'; Total depth at 14 5 bgs; DTW at 11'; Well Installed

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

Drilled By: TSS

Drill Method: HSA

Drilling Equipment. B-59

HydroGeoLogic, Inc.
1155 Herndon Pkwy, Suite 900
Herndon, VA 20170
(703) 478-5186 FAX (703) 471-4180

Hole Size: 8"

Total Depth Drilled 14 5'

MONITORING WELL CONSTRUCTION DETAILS

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE Margaret Johnston

DRILLING CONTRACTOR: Dixie Drilling

DRILLING TECHNIQUE DPT/HSA
AUGER SIZE AND TYPE: 5' split spoon

BOREHOLE IDENTIFICATION WHGLTA050
BOREHOLE DIAMETER 5"
WELL IDENTIFICATION WHGLTA050

WELL CONSTRUCTION START DATE 2/7/2001
WELL CONSTRUCTION COMPLETE DATE

SCREEN MATERIAL. PVC
SCREEN DIAMETER 2"
STRATUM-SCREENED INTERVAL (FT): 2-7'

CASING MATERIAL PVC
CASING DIAMETER 2"

TYPE OF FILTER PACK: 20/40
GRADIATION medium-coarse
AMOUNT OF FILTER PACK USED

TYPE OF BENTONITE 3/8" Envirocore Medium
AMOUNT BENTONITE USED

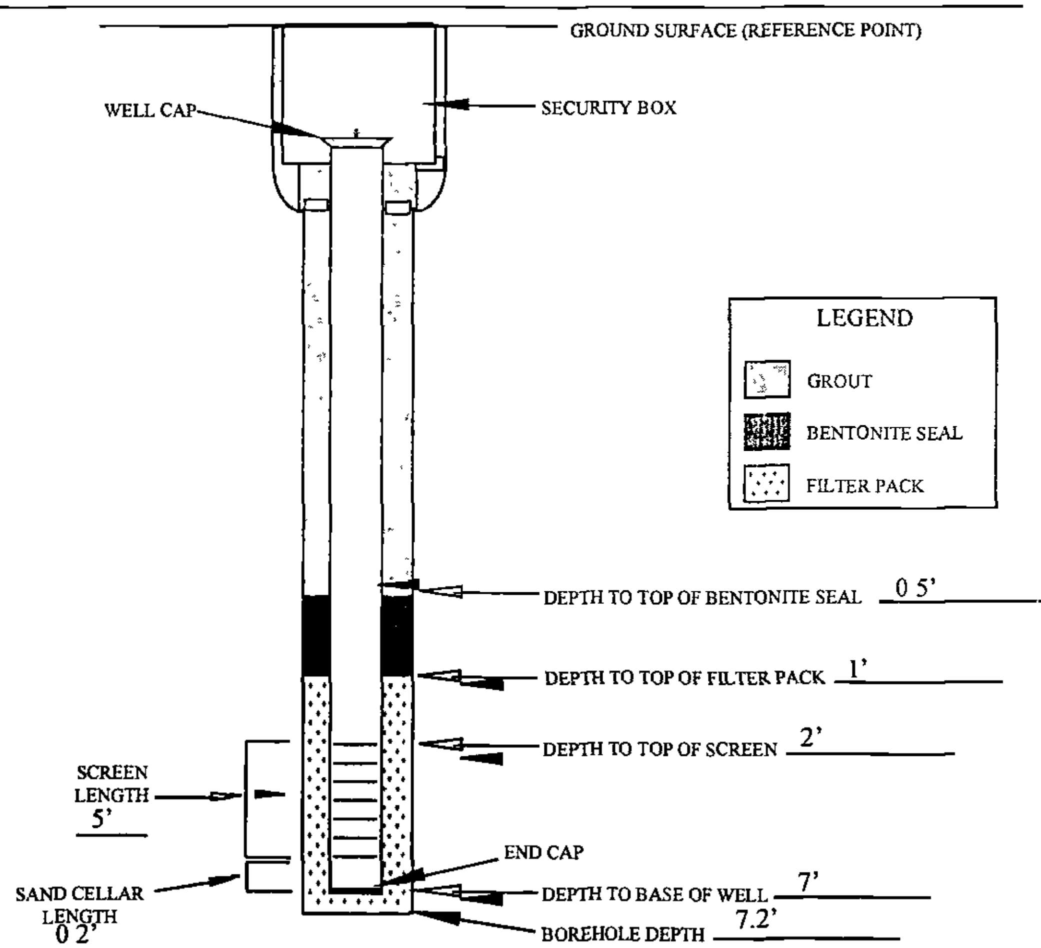
TYPE OF CEMENT: Quickrete
AMOUNT CEMENT USED.
GROUT MATERIALS USED

DIMENSIONS OF SECURITY BOX:

TYPE OF WELL CAP Pressure cap
TYPE OF END CAP 4" point

COMMENTS

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY Chuck Delisi INSTALLATION OBSERVED BY: Margaret Johnston

DISCREPANCIES:

AFCEE FORM WAB 11

D \SHARE_ALL\AFCEE_TEMPLATES\FORMS-standard ppt

724 301

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

HYDRO GeoLogic INC.

FIELD REPRESENTATIVE: Margaret Johnston

DRILLING CONTRACTOR: Dixie Drilling

DRILLING TECHNIQUE: DPT/HSA
AUGER SIZE AND TYPE: 5' split spoon

BOREHOLE IDENTIFICATION: WHGLTA051
BOREHOLE DIAMETER: 5"
WELL IDENTIFICATION: WHGLTA051

WELL CONSTRUCTION START DATE: 2/7/2001
WELL CONSTRUCTION COMPLETE DATE:

SCREEN MATERIAL: Schedule 40 PVC
SCREEN DIAMETER: 2"
STRATUM-SCREENED INTERVAL (FT): 2-7'

CASING MATERIAL: Schedule 40 PVC
CASING DIAMETER: 2"

TYPE OF FILTER PACK: 20/40
GRADIATION: Med-coarse
AMOUNT OF FILTER PACK USED:

TYPE OF BENTONITE: 3/8" Envirocore Medium
AMOUNT BENTONITE USED:

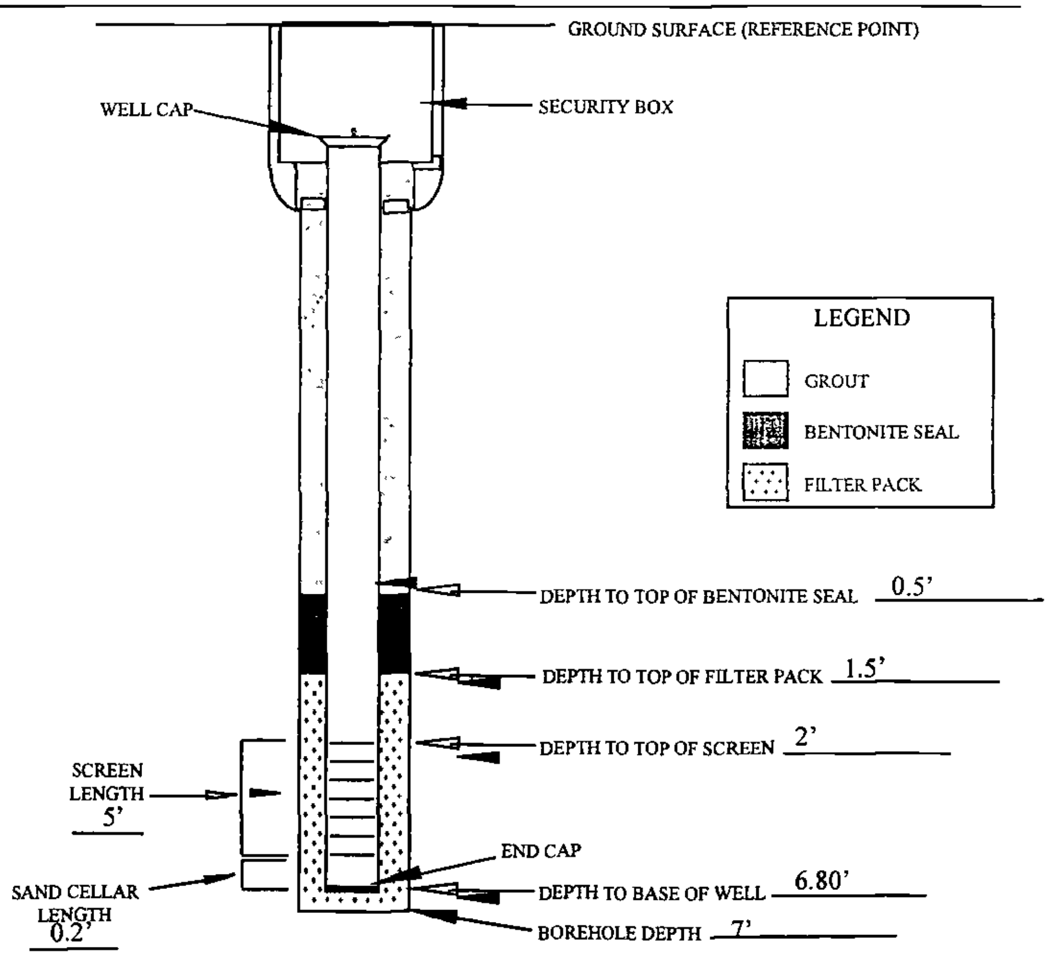
TYPE OF CEMENT: Quickrete
AMOUNT CEMENT USED:
GROUT MATERIALS USED:

DIMENSIONS OF SECURITY BOX:

TYPE OF WELL CAP: Pressure cap
TYPE OF END CAP: 4" point

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Chuck Delisi
INSTALLATION OBSERVED BY: Margaret Johnston

DISCREPANCIES

AFCEE FORM WAB.11

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HYDRO GeoLogic WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE. Margaret Johnston

DRILLING CONTRACTOR Dixie Drilling

DRILLING TECHNIQUE DPT/HSA
AUGER SIZE AND TYPE· 5' split spoon

BOREHOLE IDENTIFICATION· WHGLTA052
BOREHOLE DIAMETER. 5"
WELL IDENTIFICATION· WHGLTA052

WELL CONSTRUCTION START DATE. 2/7/2001
WELL CONSTRUCTION COMPLETE DATE

SCREEN MATERIAL. Schedule 40 PVC
SCREEN DIAMETER 2"
STRATUM-SCREENED INTERVAL (FT) 2-7'

CASING MATERIAL. Schedule 40 PVC
CASING DIAMETER 2"

TYPE OF FILTER PACK: 20/40
GRADIATION· Med-coarse
AMOUNT OF FILTER PACK USED.

TYPE OF BENTONITE· 3/8" Envirocore Medium
AMOUNT BENTONITE USED:

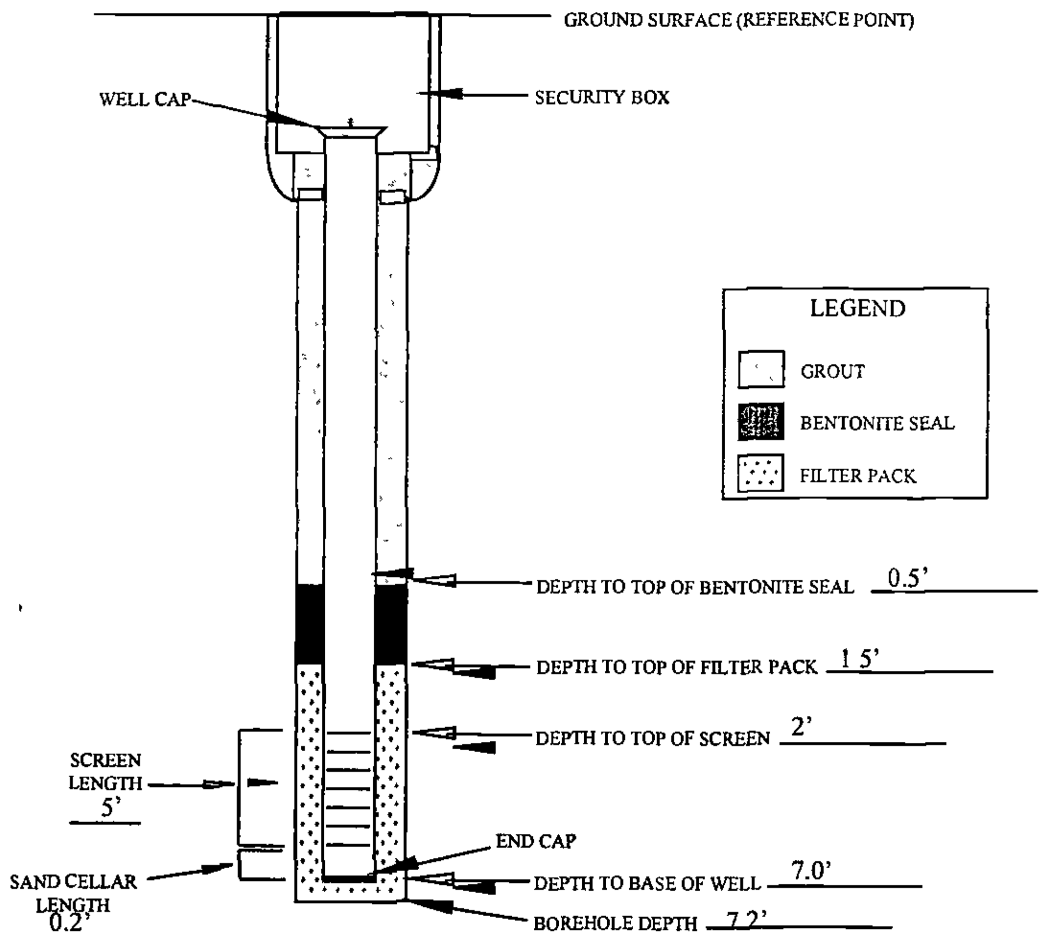
TYPE OF CEMENT. Quickrete
AMOUNT CEMENT USED
GROUT MATERIALS USED·

DIMENSIONS OF SECURITY BOX

TYPE OF WELL CAP: Pressure cap
TYPE OF END CAP· 4" point

COMMENTS

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY· Chuck Delisi INSTALLATION OBSERVED BY· Margaret Johnston

DISCREPANCIES.

MONITORING WELL DEVELOPMENT FORMS

724 304

HYDRO GEOLOGIC

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID LF/AOC 17AOC 51
SHEET 1 of 1

PROJECT NAME Phase II SI PROJECT NO AFC001-26CD DATE 2/17/01

LOCATION AOC 19 DATE INSTALLED 2/7/01

TOTAL DEPTH (FTOC) 6.2 CASING DIAMETER 2

METHODS OF DEVELOPMENT

☒ Swabbing ☐ Bailing ☒ Pumping ☐ Describe Swabbed on 2/14/01, purged again on 2/17

Equipment decontaminated prior to development ☐ Yes ☐ NO

Describe ______

EQUIPMENT NUMBERS

pH Meter ______ EC Meter ______ Turbidity Meter ______ Thermometer ______

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	2.0	2.2	3.0	4.0	4.2	[illegible]	[illegible]	[illegible]	[illegible]
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	[illegible]	0.37	0.65	0.75	[illegible]	[illegible]	[illegible]	[illegible]

PURGING INFORMATION

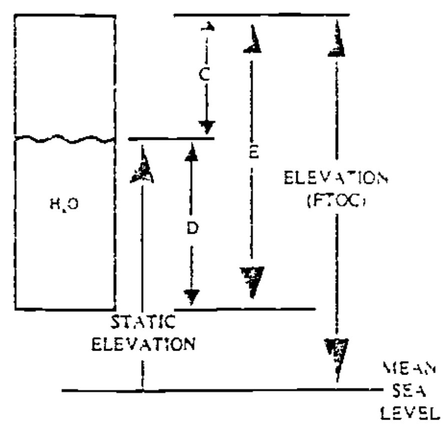
Measured Well Depth (B) 6.82 ft

Measured Water Level Depth (C) 3.37 ft

Length of Static Water Column (D) ______ (B) - ______ (C) = 3.45 ft

Casing Water Volume (E) = 0.16 (A) x 3.45 (D) = 0.55 gal

Total Purge Volume = ______ (gal)



Flow 0.1 gal/min

Date	Time	Water Level FTOC	Volume Removed (gal)	pH	EC	Temperature F or C	Turbidity/ Sand (ppm)	Comments
2/17/01	1305	3.37'	3 gal	Start pump				Swabbed + purged 3 gal on 2/14/2001
2/17/01	1315	→	4	7.49	272.0	14.02	118.3	Cloudy, no odor
	1320		4.5	7.24	326	14.30	33.7	cleared up quickly
	1325		5.0	7.21	331	14.43	17.5	
	1330		5.5	7.15	339	14.45	11.7	
	1335		6.0	7.12	341	14.46	9.5	
	1340		6.5	7.11	346	14.53	6.73	
	1345	↓	7.0	7.09	349	14.56	5.91	Stop pumping - development finished - parameters stable

AFCEE FORM WD 0

4 rows < top of pump

724 305

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID WHCL MCS-2
SHEET 1 of ____

PROJECT NAME AN 2 TSI PROJECT NO AECM1-36 CD DATE 2/17/2001

LOCATION AOC 19 DATE INSTALLED 2/7/01

TOTAL DEPTH (FTOC) 7.10 CASING DIAMETER ____

DTW = 4.30

METHODS OF DEVELOPMENT

☒ Swabbing ☐ Bailing ☒ Pumping ☐ Describe ____

Equipment decontaminated prior to development ☐ Yes ☐ NO

Describe ____

EQUIPMENT NUMBERS

pH Meter ____ EC Meter ____ Turbidity Meter ____ Thermometer ____

CASING VOLUME INFORMATION

Casing Diameter	[illegible]	5	2.0	[illegible]	[illegible]	4.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Casing Volume (gal/ft)	.04	0.09	0.16	[illegible]	.37	0.65	.75	[illegible]	1.5	[illegible]	[illegible]

PURGING INFORMATION

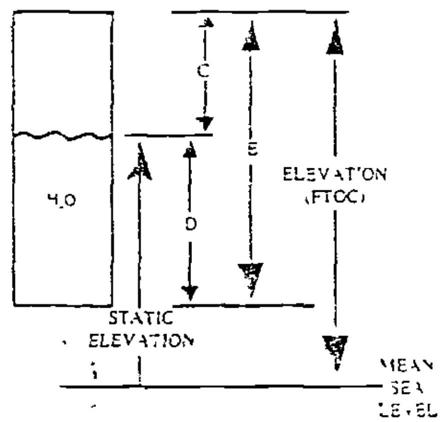
Measured Well Depth (B) 7.10 ft

Measured Water Level Depth (C) 4.30 ft

Length of Static Water Column (D) 7.10 (B) - 4.30 (C) = 2.80 ft

Casing Water Volume (E) = ~~.20~~ 0.16 (A) x 2.80 (D) = ____ gal

Total Purge Volume = ____ (gal)



Date	Time	Water Level (FTOC)	Volume Removed (gal)	pH	EC	Temperature F or C	Turbidity/ Sand (ppm)	Comments
2/17/01	1340	4.30 *	28	Start pump				Swabbed + purged 2 gal on 2/14/01
2/17/01	1355	~~3.30~~ 4.30 NM	29	708	601.0	14.51	1002	
2/17/01	1400			699	601	14.47	60.2	
2/17/01	1405			693	602	14.50	39.3	
2/17/01	1410			694	601	14.46	39.0	
2/17/01	1415		30	691	604	14.60	26.5	
2/17/01	1420			692	599	14.39	22.3	
2/17/01	1425			690	599	14.32	8.67	
2/17/01	1430			691	601	14.52	19.7	
2/17/01	1435			691	599	14.35	10.2	

* TOP OF PUMP ABOVE WATER LEVEL

HYDRO GeoLogic

MONITOR WELL PURGING FORM

PROJECT Phase II SI

DATE 2/17/01

LOCATION ACC 19

EXPLOSIMETER BOREHOLE READING ________

WELL ID: WHGLTA052

PURGE VOLUME (3 WELLBORE VOLUMES): ____________ (L)

WELL DEPTH 710

Time	Depth to Water (ft)	Flow Meter Reading	Volume Purged ~~(L)~~ (Gal)	Temp (°C)	pH	Electrical Conductivity (mmho)	Turbidity NTU	Comments
1440	*		30.5	1444	6.92	600	6.72	
1445				14.52	6.92	601	7.82	
1450			31.0	14.56	6.93	602	7.22	

Note: Condition of the well: ____________________

pH - Calibrate at start and before last reading

Sampler M. MAHAL

Observer J RIHS

FIELD SAMPLING FORMS

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION. NAS Fort Worth JRB — PROJECT NAME DO 26 Site Investigation

SITE. AOC19 — PROJECT NAME AFC-001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1901-01 — DATE 5/12/00 TIME: 1510

MATRIX TYPE SO

SAMPLING METHOD: Split Spoon / EnCore

LOT CONTROL # __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT) 0'

SAMPLE END DPETH (FT) 3'

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ——

MATRIX SPIKE DUP (SD) ——

FIELD DUP (FD) ——

AMBIENT BLANK (AB) ——

EQUIPMENT BLANK (EB) EB051200

TRIP BLANK (TB) TB051200

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0 ppm	COLOR		
2nd	ODOR		
	OTHER		

pH ______ Temperature ______ (C) Dissolved Oxygen ______ (mg/L) Specific Conductivity ______ (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential ______ (mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION From W AMBIENT TEMPERATURE 90°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER J. Wilson OBSERVER E. Dambaugh

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION NAS Fort Worth JRB

SITE. AOC19

PROJECT NAME DO 26 Site Investigation

PROJECT NAME AFC-001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1901-02

DATE 5/12/00 TIME: 1515

MATRIX TYPE: SO

SAMPLING METHOD: SPLIT SPOON/ENCORE

LOT CONTROL #. __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ______

SAMPLE BEG DPETH (FT) 3'

SAMPLE END DPETH (FT) 6'

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) EB 051200

TRIP BLANK (TB) TB 051200

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st Ø ppm	COLOR	
2nd	ODOR	
	OTHER	

pH ______ Temperature ______ (C) Dissolved Oxygen ______ (mg/L) Specific Conductivity ______ (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential ______ (mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION FROM W AMBIENT TEMPERATURE 90°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER J. WILSON OBSERVER E. DANBAUGH

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

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724 310

LOCATION: NAS Ft Worth JRB

SITE

PROJECT NAME

PROJECT NAME

SAMPLE INFORMATION

SAMPLE ID

DATE

TIME

MATRIX TYPE SO

SAMPLING METHOD

LOT CONTROL #.

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #

SAMPLE BEG DPETH (FT)

SAMPLE END DPETH (FT)

GRAB ( ) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS)

MATRIX SPIKE DUP (SD)

FIELD DUP (FD)

AMBIENT BLANK (AB)

EQUIPMENT BLANK (EB)

TRIP BLANK (TB)

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~4 OZ JAR~~	~~1~~	~~Cool to 4C~~		~~METALS [illegible]~~
5g ENCORE	1	Cool to 4C	SW8260B	VOCs
~~4 OZ JAR~~	~~1~~	~~Cool to 4C~~		~~SVOCs~~

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS	MISCELLANEOUS
st		COLOR	
nd		ODOR	
		OTHER	

pH ____ Temperature ____ (C) Dissolved Oxygen ____ (mg/L) Specific Conductivity ____ (umhos/cm)

Iron ____ (mg/L) Oxidation/Reduction Potential ____ (mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ____ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE ____

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER

OBSERVER

MATRIX TYPE CODES		SAMPLING METHOD CODES	
C=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
G=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
H=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
I=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

:ATION NAS Fort Worth JRB

SITE: AOC 19

PROJECT NAME DO 26 Site Investigation

PROJECT NAME AFC-001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1901-03

DATE: 5/12/00 TIME: 1545

MATRIX TYPE: SO

SAMPLING METHOD. SPLIT SPOON/ENCORE

LOT CONTROL # __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ____

SAMPLE BEG DPETH (FT) 9'

SAMPLE END DPETH (FT) 11'

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE.

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) EB051200

TRIP BLANK (TB) TB051200

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0 ppm	COLOR	
2nd	ODOR	
	OTHER	

pH ____ Temperature ____(C) Dissolved Oxygen ____(mg/L) Specific Conductivity ____(umhos/cm)

Iron ____(mg/L) Oxidation/Reduction Potential ____(mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION from W AMBIENT TEMPERATURE 90°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS ____

SAMPLER J. WILSON OBSERVER E. DAMBAUGH

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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FIELD SAMPLING REPORT

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LOCATION NAS Ft Worth JRB

SITE [illegible]

PROJECT NAME [illegible]

PROJECT NAME [illegible]

SAMPLE INFORMATION

SAMPLE ID [illegible]

DATE [illegible] TIME: [illegible]

MATRIX TYPE: SO

SAMPLING METHOD: [illegible]

LOT CONTROL #. ___ ___ ___ ___

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ____________

SAMPLE BEG DPETH (FT) 3

SAMPLE END DPETH (FT) [illegible]

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ____________

MATRIX SPIKE DUP (SD) ____________

FIELD DUP (FD) ____________

AMBIENT BLANK (AB) ____________

EQUIPMENT BLANK (EB). [illegible]

TRIP BLANK (TB) [illegible]

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~[illegible]~~	~~1~~	~~Cool to 4C~~		
[illegible]	1	Cool to 4C	SW8260B	VOCs
~~[illegible]~~	~~1~~	~~Cool to 4C~~		

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	[illegible]	COLOR	
2nd	[illegible]	ODOR	
		OTHER	

pH ________ Temperature ________(C) Dissolved Oxygen ________(mg/L) Specific Conductivity ________(umhos/cm)

Iron ________(mg/L) Oxidation/Reduction Potential ________(mv) Turbidity________ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ______ OVERCAST/RAIN [illegible] WIND DIRECTION [illegible] AMBIENT TEMPERATURE [illegible]

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ____________

SAMPLER [illegible] OBSERVER [illegible]

MATRIX TYPE CODES		SAMPLING METHOD CODES	
C=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
G=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
H=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
H=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
E=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

BEST AVAILABLE COPY

LOCATION: NAS Ft Worth JRB

PROJECT NAME

SITE: /

PROJECT NAME

SAMPLE INFORMATION

SAMPLE ID

DATE

TIME

MATRIX TYPE: SO

SAMPLING METHOD:

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #

SAMPLE BEG DPETH (FT) 9

SAMPLE END DPETH (FT) 11

GRAB ( ) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS)

MATRIX SPIKE DUP (SD)

FIELD DUP (FD)

AMBIENT BLANK (AB)

EQUIPMENT BLANK (EB)

TRIP BLANK (TB)

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
	1	Cool to 4C		
[illegible]	1	Cool to 4C	SW8260B	VOCs
	1	Cool to 4C		

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
0 ppm	COLOR		
	ODOR		
	OTHER		

pH ______ Temperature ______ (C) Dissolved Oxygen ______ (mg/L) Specific Conductivity ______ (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential ______ (mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR ______ OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE ______

SHIPMENT VIA: FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER ______ OBSERVER ______

MATRIX TYPE CODES		SAMPLING METHOD CODES	
=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
-HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

ᐟATION: NAS Fort Worth JRB	PROJECT NAME DO 26 Site Investigation
SITE: AOC 19	PROJECT NAME AFC-001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1902-01

DATE 5/15/00 TIME 0850

MATRIX TYPE SO

SAMPLING METHOD SPLIT SPOON/ENCORE

LOT CONTROL # __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ____________

SAMPLE BEG DPETH (FT) 0 FT

SAMPLE END DPETH (FT) 3 FT

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ——

MATRIX SPIKE DUP (SD) ——

FIELD DUP (FD) ——

AMBIENT BLANK (AB) ——

EQUIPMENT BLANK (EB) EB 051500

TRIP BLANK (TB) TB 051500

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0 PPm	COLOR	
2nd	ODOR	
	OTHER	

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION From S AMBIENT TEMPERATURE 75°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ____________

SAMPLER J. WILSON OBSERVER E. DAMBAUGH

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

BEST AVAILABLE COPY

LOCATION: NAS Fort Worth JRB

PROJECT NAME DO 26 Site Investigation

SITE AOC19

PROJECT NAME AFC-001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1902-02

DATE 5/15/00 TIME 0855

MATRIX TYPE: SO

SAMPLING METHOD: SPLIT SPOON/ENCORE

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____________

SAMPLE BEG DPETH (FT) 3

SAMPLE END DPETH (FT) 6

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ——

MATRIX SPIKE DUP (SD) ——

FIELD DUP (FD) ——

AMBIENT BLANK (AB) ——

EQUIPMENT BLANK (EB) EB051500

TRIP BLANK (TB) TB051500

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0ppm	COLOR		
2nd	ODOR		
	OTHER		

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION from S AMBIENT TEMPERATURE 75°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ____________

SAMPLER J. Wilson

OBSERVER E. Dambach

MATRIX TYPE CODES		SAMPLING METHOD CODES	
C=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
G=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
H=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
H=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
S=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR 11

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

724 316

LOCATION:	NAS Fort Worth JRB	PROJECT NAME	DO 26 Site Investigation
SITE:	AOC 19	PROJECT NAME	AFC-001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1903-01

DATE 5/15/00 TIME 0935

MATRIX TYPE SO

SAMPLING METHOD: SPLIT SPOON/HAND AUGER

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ______

SAMPLE BEG DPETH (FT) 0

SAMPLE END DPETH (FT) 3

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

- MATRIX SPIKE (MS) ——
- MATRIX SPIKE DUP (SD) ——
- FIELD DUP (FD) DUP06
- AMBIENT BLANK (AB) ——
- EQUIPMENT BLANK (EB) EB 051500
- TRIP BLANK (TB) TB 051500

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0 PPM	COLOR		
2nd	ODOR		
	OTHER		

pH ______ Temperature ______ (C) Dissolved Oxygen ______ (mg/L) Specific Conductivity ______ (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential ______ (mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION From S AMBIENT TEMPERATURE 75°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER J. Wilson OBSERVER G. Dambach

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 317

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

ATION.	NAS Ft Worth JRB	PROJECT NAME	DO26/29 RFI/SI
SITE	AOC-19	PROJECT NAME	AFC001-26CC/29BBBA

SAMPLE INFORMATION

SAMPLE ID DUP06

DATE. 5/15/00 TIME. 0835 (collected @ 0935)

MATRIX TYPE. SO

SAMPLING METHOD Split Spoon/Encore

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ____________

SAMPLE BEG DPETH (FT) 0

SAMPLE END DPETH (FT) 3

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ——

MATRIX SPIKE DUP (SD) ——

FIELD DUP (FD) ——

AMBIENT BLANK (AB) ——

EQUIPMENT BLANK (EB) EB 051500

TRIP BLANK (TB) TB 051500

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs
5g Encore	3	Cool to 4C	SW8260B	VOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0 ppm	COLOR		
2nd	ODOR		
	OTHER		

pH ________ Temperature ________(C) Dissolved Oxygen ________(mg/L) Specific Conductivity ________(umhos/cm)

Iron ________(mg/L) Oxidation/Reduction Potential ________(mv) Turbidity ________ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION From S AMBIENT TEMPERATURE 75°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ________________

SAMPLER J. Wilson OBSERVER C. Dombrusky

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC = DRILL CUTTINGS	SL = SLUDGE	B = BAILER	G = GRAB
WG = GROUND WATER	SO = SOIL	BP = BLADDER PUMP	HA = HAND AUGER
LH = HAZARDOUS LIQUID WASTE	GS = SOIL GAS	BR = BRASS RING	H = HOLLOW STEM AUGER
SH = HAZRDOUS SOLID WASTE	WS = SURFACE WATER	CS = COMPOSITE SAMPLE	HP = HYDRO PUNCH
SE = SEDIMENT	SW = SWAB/WIPE	C = CONTINUOUS FLIGHT AUGER	SS = SPLIT SPOON
		DT = DRIVEN TUBE	SP = SUBMERSIBLE PUMP

HYDRO Geologic INC

FIELD SAMPLING REPORT

'ATION NAS Fort Worth JRB — PROJECT NAME DO 26 Site Investigation

SITE AOC19 — PROJECT NAME AFC-001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1903-02

DATE 5/15/00 TIME: 0950

MATRIX TYPE: SO

SAMPLING METHOD: SPLIT SPOON/HA

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____

SAMPLE BEG DPETH (FT) 3

SAMPLE END DPETH (FT) 6

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ——

MATRIX SPIKE DUP (SD) ——

FIELD DUP (FD) ——

AMBIENT BLANK (AB) ——

EQUIPMENT BLANK (EB) EB051500

TRIP BLANK (TB) TB051500

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0 ppm	COLOR	
2nd	ODOR	
	OTHER	

pH ____ Temperature ____ (C) Dissolved Oxygen ____ (mg/L) Specific Conductivity ____ (umhos/cm)

Iron ____ (mg/L) Oxidation/Reduction Potential ____ (mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION from S AMBIENT TEMPERATURE 75°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS ____

SAMPLER J. Wilson OBSERVER E. Dambach

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION NAS Ft Worth JRB PROJECT NAME DO26/29 RFI/SI

SITE AOC 19 PROJECT NAME AFC001-26CC/29BBBA

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1904MS

DATE 5/15/00 TIME 1040

MATRIX TYPE SO

SAMPLING METHOD. SPLITSPOON/ENCORE

LOT CONTROL # __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ____________

SAMPLE BEG DPETH (FT) 0

SAMPLE END DPETH (FT) 3

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ——

MATRIX SPIKE DUP (SD) ——

FIELD DUP (FD) ——

AMBIENT BLANK (AB) ——

EQUIPMENT BLANK (EB) EB CS7500

TRIP BLANK (TB) TB CS7500

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0 PPM	COLOR	
2nd	ODOR	
	OTHER	

pH ________ Temperature ________(C) Dissolved Oxygen ________(mg/L) Specific Conductivity ________(umhos/cm)

Iron ________(mg/L) Oxidation/Reduction Potential ________(mv) Turbidity ________ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION From S AMBIENT TEMPERATURE 75°F

SHIPMENT VIA. FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS ____________

SAMPLER J. WILSON OBSERVER B. DAMBACH

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB

SITE: AOC 19

PROJECT NAME: DO 26 Site Investigation

PROJECT NAME: AFC-001-26CC

SAMPLE INFORMATION

SAMPLE ID: BHGLAOC1904-01

DATE: 5/15/00 TIME: 1040

MATRIX TYPE: SO

SAMPLING METHOD: SPLIT SPOON

LOT CONTROL #. __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ____________

SAMPLE BEG DPETH (FT) 0

SAMPLE END DPETH (FT) 3

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) BHGLAOC1904MS

MATRIX SPIKE DUP (SD) BHGLAOC1904MSD

FIELD DUP (FD) ——

AMBIENT BLANK (AB) ——

EQUIPMENT BLANK (EB) EB 051500

TRIP BLANK (TB) TB 051500

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0 ppm	COLOR	
2nd	ODOR	
	OTHER	

pH ________ Temperature ________(C) Dissolved Oxygen ________(mg/L) Specific Conductivity ________(umhos/cm)

Iron ________(mg/L) Oxidation/Reduction Potential ________(mv) Turbidity ________ (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION From S AMBIENT TEMPERATURE 75°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS ____________

SAMPLER J. Wilson OBSERVER E. Dambach

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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FIELD SAMPLING REPORT

HYDRO GeoLogic INC

LOCATION	NAS Ft Worth JRB	PROJECT NAME	DO26/29 RFI/SI
SITE	AOC19	PROJECT NAME	AFC001-26CC/29BBBA

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1904MSD

DATE: 5/15/03 TIME: 1040

MATRIX TYPE SO

SAMPLING METHOD: SPLIT SPOON

LOT CONTROL #. __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ______________

SAMPLE BEG DPETH (FT) 0

SAMPLE END DPETH (FT) 3

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE.

MATRIX SPIKE (MS) ——

MATRIX SPIKE DUP (SD) ——

FIELD DUP (FD) ——

AMBIENT BLANK (AB) ——

EQUIPMENT BLANK (EB) EB C57520

TRIP BLANK (TB) TBC57500

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0 ppm	COLOR	
2nd	ODOR.	
	OTHER	

pH ________ Temperature ________(C) Dissolved Oxygen ________(mg/L) Specific Conductivity ________(umhos/cm)

Iron ________(mg/L) Oxidation/Reduction Potential ________(mv) Turbidity ________ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION Gems AMBIENT TEMPERATURE 75°F.

SHIPMENT VIA. FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______________

SAMPLER: J. Wilson OBSERVER E. DAMBAUGH

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION. NAS Fort Worth JRB

PROJECT NAME DO 26 Site Investigation

S. - AOC19

PROJECT NAME AFC-001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1904-02

DATE. 5/15/00 TIME 1100

MATRIX TYPE: SO

SAMPLING METHOD SPLIT SPOON

LOT CONTROL # __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ____________

SAMPLE BEG DPETH (FT) 3

SAMPLE END DPETH (FT) 6

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE.

MATRIX SPIKE (MS) ——

MATRIX SPIKE DUP (SD) ——

FIELD DUP (FD) ——

AMBIENT BLANK (AB) ——

EQUIPMENT BLANK (EB) EB C51500

TRIP BLANK (TB) TB C51500

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz Jar	1	Cool to 4C	SW6010B/SW7471A	Metals + Mercury
5g Encore	3	Cool to 4C	SW8260B	VOCs
4 oz Jar	1	Cool to 4C	SW8270C	SVOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0 ppm	COLOR		
2nd	ODOR		
	OTHER		

pH ________ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION from S AMBIENT TEMPERATURE 75°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ____________

SAMPLER J. WILSON OBSERVER E. DAMBAUGH

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION NAS Fort Worth JRB, TX — PROJECT NAME: Phase II RFI FT-001

SITE. AOC 19 — PROJECT NO. AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1905-01

DATE. 8-20-01 TIME 1530

MATRIX TYPE· SO

SAMPLING METHOD. SS

LOT CONTROL #: C 1 1 H

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD) ______

FIELD DUP (FD) ______

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB). EB082001

TRIP BLANK (TB) TB082001

SAMPLE BEG DPETH (FT) 0.25

SAMPLE END DPETH (FT) 0.75

GRAB (X) COMPOSITE ( )

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
5g Encore	3	Cool to 4C	SW8260B	VOCs (App IX + cis ~~TCE~~ 1,2 DCE)
4 oz. jar	2	Cool to 4C	SW8270C / SW6010/7000	SVOCs (App IX) and metals + Hg

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0ppm	COLOR		
2nd	ODOR	None	
	OTHER.		

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ✓ OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE 100 F

SHIPMENT VIA· FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER M. Johnston OBSERVER J. Cohen

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

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ATION	NAS Fort Worth JRB, TX	PROJECT NAME.	Phase II RFI FT-001
SITE:	AOC 19	PROJECT NO·	AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID ~~BHGLAOC1906-03~~ TBC2001 | DATE: 8-20-01 TIME: 900

MATRIX TYPE: ~~SO~~ WG

SAMPLING METHOD: SS G

LOT CONTROL # C 1 1 F1

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ______

SAMPLE BEG DPETH (FT) N/A

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE·

- MATRIX SPIKE (MS) ______
- MATRIX SPIKE DUP (SD) ______
- FIELD DUP (FD) ______
- AMBIENT BLANK (AB) N/A
- EQUIPMENT BLANK (EB) EW2001
- TRIP BLANK (TB) ______

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~5g Encore~~ 40ml Vial	3	Cool to 4C , HCl	SW8260B	VOC (App IV) + 1,2 ~~EE~~

NOTABLE OBSERVATIONS

FID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE 100 F

SHIPMENT VIA· FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER M Johnston OBSERVER T Lides

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC.

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX — PROJECT NAME: Phase II RFI FT 001

SITE: ~~[illegible]~~ AOC 19 — PROJECT NO: AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID ~~[illegible]~~ BHGLAOC1908-01 — DATE 8-21-01 — TIME 830

MATRIX TYPE: ~~WG~~ SO

SAMPLING METHOD ~~BP~~ DT

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ______

SAMPLE BEG DPETH (FT) 0

SAMPLE END DPETH (FT) 1

GRAB (X) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD) ______

FIELD DUP (FD) ______

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB082101

TRIP BLANK (TB) TB082101

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
2oz ~~Encore/L VOA~~	3	Cool to 4C ~~HCl to pH<2~~	SW8260B	VOCs (App IX) + cis 12 DCE
4oz ~~1L Amber~~	1	Cool to 4C	SW8270C	SVOCs (App IX)
4oz ~~1L Poly~~	1	Cool to 4C ~~NaOH pH>9~~	SW6010B/7000	Total Metals (App IX) + Hg

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0 ppm	COLOR	
2nd	ODOR	
	OTHER	

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity ______(NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION SE AMBIENT TEMPERATURE 90°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER M Johnston — OBSERVER J Rihs

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Fw JRB

PROJECT NAME: Phase II RFI FT-001

SITE: AOC 19

PROJECT NO: AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID: DUP005

DATE: 7 26 01 TIME: 1700

MATRIX TYPE: SO

SAMPLING METHOD: SS

LOT CONTROL #: 0 1 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT) 9.75
SAMPLE END DPETH (FT) 10.25
GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ______
MATRIX SPIKE DUP (SD) ______
FIELD DUP (FD): BHGLAOC19C 7-03
AMBIENT BLANK (AB) N/A
EQUIPMENT BLANK (EB) EB072001
TRIP BLANK (TB) TB072001

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
5g Encore	3	Cool to 4C	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0 ppm	COLOR	Y	
2nd	ODOR	none	
	OTHER		

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE 100 F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER G. Echo OBSERVER M. Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR 11

724 327

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FIELD SAMPLING REPORT

CATION:	NAS Fort Worth JRB, TX	PROJECT NAME	Phase II RFI FT-001
SITE:	AOC 19	PROJECT NO:	AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1907-03

DATE: 8-20-01 TIME: 1400

MATRIX TYPE: SO

SAMPLING METHOD: SS

LOT CONTROL # C 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT) 9.75

SAMPLE END DPETH (FT) 10.25

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD) ______

FIELD DUP (FD) Duplicate 005 Only

AMBIENT BLANK (AB) ______

EQUIPMENT BLANK (EB): EB082001

TRIP BLANK (TB): TB082001

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
5g Encore	3	Cool to 4C	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0 ppm	COLOR	
2nd	ODOR: None	
	OTHER	

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ✓ OVERCAST/RAIN ______ WIND DIRECTION S AMBIENT TEMPERATURE 100 F

SHIPMENT VIA: FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO: STL - Chicago

COMMENTS ______

SAMPLER M Johnston OBSERVER: J Ricks

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

CATION	NAS Fort Worth JRB, TX	PROJECT NAME	Phase II RFI FT-001
SITE:	AOC 19	PROJECT NO:	AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1906-02

DATE: 8-20-01 TIME: 1435

MATRIX TYPE: SO

SAMPLING METHOD: SS

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ____

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ____

MATRIX SPIKE DUP (SD) ____

FIELD DUP (FD) ____

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) GB082001

TRIP BLANK (TB) TB082001

SAMPLE BEG DPETH (FT) 4.75

SAMPLE END DPETH (FT) 5.25

GRAB (X) COMPOSITE ( )

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
5g Encore	3	Cool to 4C	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0ppm	COLOR		
2nd	ODOR	none	
	OTHER		

pH ____ Temperature ____(C) Dissolved Oxygen ____(mg/L) Specific Conductivity ____(umhos/cm)

Iron ____(mg/L) Oxidation/Reduction Potential ____(mv) Turbidity____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE 100 F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS. ____

SAMPLER AJ Johnston OBSERVER J Ellis

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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FIELD SAMPLING REPORT

HYDRO GeoLogic INC

LOCATION	NAS Fort Worth JRB, TX	PROJECT NAME	Phase II RFI FT-001
SITE:	AOC 19	PROJECT NO.	AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1906-03

DATE: 5-20-01 TIME. 1450

MATRIX TYPE: SO

SAMPLING METHOD: SS

LOT CONTROL # C 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ____________

SAMPLE BEG DPETH (FT) 9.75

SAMPLE END DPETH (FT) 10.25

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ____________

MATRIX SPIKE DUP (SD) ____________

FIELD DUP (FD) ____________

AMBIENT BLANK (AB) [illegible]

EQUIPMENT BLANK (EB) EB 2201

TRIP BLANK (TB) TB 052001

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
5g Encore	3	Cool to 4C	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0ppm	COLOR	
2nd	ODOR none	
	OTHER	

pH ________ Temperature ________(C) Dissolved Oxygen ________(mg/L) Specific Conductivity ________(umhos/cm)

Iron ________(mg/L) Oxidation/Reduction Potential ________(mv) Turbidity________ (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE 99 F

SHIPMENT VIA: FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ____________

SAMPLER [illegible] OBSERVER [illegible]

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX — PROJECT NAME: Phase II RFI FT-001

SITE: AOC 19 — PROJECT NO: AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID: BHGLAOC1905-03 — DATE: 8-20-01 — TIME: 1600

MATRIX TYPE: SO

SAMPLING METHOD: SS

LOT CONTROL #: C 1 1 F

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____

SAMPLE BEG DPETH (FT) 9.5

SAMPLE END DPETH (FT) 10

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ____

MATRIX SPIKE DUP (SD). ____

FIELD DUP (FD) ____

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB0820CC1

TRIP BLANK (TB) TB0820CC1

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
5g Encore	3	Cool to 4C	SW8260B	VOCs (full list) ~~TCE~~
4oz Jar	2	Cool to 4C	SW8270C and 6010B	SVOCs (full list) and Metals + Hg

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0 ppm	COLOR		
2nd	ODOR	None	
	OTHER		

pH ____ Temperature ____ (C) Dissolved Oxygen ____ (mg/L) Specific Conductivity ____ (umhos/cm)

Iron ____ (mg/L) Oxidation/Reduction Potential ____ (mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE 100 F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS: ____

SAMPLER: C. Riles — OBSERVER: M. Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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FIELD SAMPLING REPORT

LOCATION: NAS FW JRB — PROJECT NAME: Phase II RFI FT-001

SITE: AOC 19 — PROJECT NO. AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID: BHGLAOC1905-02 — DATE: 8-20-01 — TIME: 1550

MATRIX TYPE: SO

SAMPLING METHOD: SS

LOT CONTROL #: C 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT): 4.75

SAMPLE END DPETH (FT): 5.25

GRAB (x) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD) ______

FIELD DUP (FD) ______

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB082001

TRIP BLANK (TB) TB082001

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
5g Encore	3	Cool to 4C	SW8260B	VOCs (Appix) + cis 1,2 ~~TCE~~
4oz jar	2	cool to 4C	SW8270C / SW6010/7000	SVOCs (Appix) and Metals + Hg

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0ppm	COLOR	
2nd	ODOR None	
	OTHER	

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE 90 F

SHIPMENT VIA. FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO: STL - Chicago

COMMENTS: ______

SAMPLER: D Riha — OBSERVER: M. Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

CATION NAS Fort Worth JRB, TX

PROJECT NAME: Phase II RFI FT-001

SITE: ~~[illegible]~~ AOC 19

PROJECT NO. AFC001-26C~~C~~E

SAMPLE INFORMATION

SAMPLE ID ~~[illegible]~~ BKGL AOC1908-02 DATE 8-21-01 TIME: 845

MATRIX TYPE: ~~WG~~ SO

SAMPLING METHOD: ~~BP~~ DT

LOT CONTROL #. 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ____

SAMPLE BEG DPETH (FT) 4.5

SAMPLE END DPETH (FT) 5.5

GRAB (✓) COMPOSITE (✓)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ____

MATRIX SPIKE DUP (SD) ____

FIELD DUP (FD) ____

AMBIENT BLANK (AB) ____

EQUIPMENT BLANK (EB) EB082101

TRIP BLANK (TB) TB082101

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
sm ~~[illegible] VOA~~	3	Cool to 4C ~~HCl to pH<2~~	SW8260B	VOCs (App IX) + cis 1,2 DCE
lrg jar ~~1 L Amber~~	1	Cool to 4C	SW8270C	SVOCs (App IX)
4oz jar ~~1 L Poly~~	1	Cool to 4C ~~NaOH pH>9~~	SW6010B/7000	~~Total~~ Metals (App IX) + Hg

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH ____ Temperature ____(C) Dissolved Oxygen ____(mg/L) Specific Conductivity ____(umhos/cm)

Iron ____(mg/L) Oxidation/Reduction Potential ____(mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION SE AMBIENT TEMPERATURE 90°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS ____

SAMPLER: M Johnston OBSERVER J Eiks

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 333

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION	NAS Fort Worth JRB, TX	PROJECT NAME	Phase II RFI FT-001
SITE	AOC ~~MSWMU~~ 19	PROJECT NO	AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID ~~F100-1241Y001~~ BH6LAOC1908-03

DATE: 8-21-01 TIME 855

MATRIX TYPE: ~~WG~~ SO

SAMPLING METHOD: ~~BP~~ DT

LOT CONTROL # O 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN OF-CUSTODY # ____

SAMPLE BEG DPETH (FT) 9.5

SAMPLE END DPETH (FT) 10.5

GRAB (x) COMPOSITE (x)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ____

MATRIX SPIKE DUP (SD) ____

FIELD DUP (FD) ____

AMBIENT BLANK (AB) ____

EQUIPMENT BLANK (EB) EB082101

TRIP BLANK (TB) ____

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
5g ~~40 ml VOA~~	3	Cool to 4C ~~HCl to pH<2~~	SW8260B	VOCs (App IX) + cis 1,2 DCE
4oz ~~1L Amber~~	2	Cool to 4C	SW8270C	SVOCs (App IX)
4oz ~~1L Poly~~	1	Cool to 4C ~~HNO3 pH<2~~	SW6010B /7000	Total Metals (App IX) + Hg

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0 ppm	COLOR	
2nd	ODOR	
	OTHER	

pH ____ Temperature ____(C) Dissolved Oxygen ____(mg/L) Specific Conductivity ____(umhos/cm)

Iron ____(mg/L) Oxidation/Reduction Potential ____(mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION SE AMBIENT TEMPERATURE 90F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS ____

SAMPLER J Ribs OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO Geologic INC

FIELD SAMPLING REPORT

724 334

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase II RFI FT-001
SITE:	AOC ~~SWMU~~ 19	PROJECT NO:	AFC001-26CO

SAMPLE INFORMATION

SAMPLE ID: ~~FT00-12[illegible]01~~ BH6LAOC1909-02

DATE: 8-22-01 TIME: 1535

MATRIX TYPE: ~~WG~~ SO

SAMPLING METHOD: ~~BP~~ DT

LOT CONTROL #: 0 1 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT): 4.5

SAMPLE END DPETH (FT): 5.5

GRAB ( ) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD) ______

FIELD DUP (FD) ______

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB082201

TRIP BLANK (TB) N/A

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~VIAL VOA~~	~~3~~	~~Cool to 4C HCl to pH<2~~	~~SW8260A~~	~~VOCs (App IX)~~ NO
4oz ~~1 L Amber~~	1	Cool to 4C	SW8270C	SVOCs (App IX)
~~1 L Poly~~	~~1~~	~~Cool to 4C HNO3 pH<2~~	~~SW6010B~~	~~Total Metals (App IX)~~ Ang

NOTABLE OBSERVATIONS

FID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0ppm	COLOR	
2nd	ODOR NONE	
	OTHER	

pH ______ Temperature ______ (C) Dissolved Oxygen ______ (mg/L) Specific Conductivity ______ (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential ______ (mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION SE AMBIENT TEMPERATURE 95 F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER: J Kuhs OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic Inc

FIELD SAMPLING REPORT

LOCATION	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase II RFI FT-001
SITE	~~WSWMU~~ AOC 19	PROJECT NO:	AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID ~~FT09-12AW001~~ BH6LAOC1910-01

DATE: 8-22-01 TIME: 1545

MATRIX TYPE: ~~WG~~ SO

SAMPLING METHOD ~~BP~~ DT

LOT CONTROL # 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ____

SAMPLE BEG DPETH (FT)

SAMPLE END DPETH (FT)

GRAB ( ) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ✓

MATRIX SPIKE DUP (SD) ✓

FIELD DUP (FD) ____

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB082201

TRIP BLANK (TB) ____

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~40 mL VOA~~	~~3~~	~~Cool to 4C HCl to pH<2~~	~~SW8260A~~	~~VOCs (App IX)~~
4oz ~~1 L Amber~~	1	Cool to 4C	SW8270C	SVOCs (App IX)
~~1 L Poly~~	~~1~~	~~Cool to 4C HNO3 to pH<2~~	~~SW6010B~~	~~Total Metals (App IX)~~

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0ppm	COLOR		
2nd	ODOR	None	
	OTHER		

pH ____ Temperature ____ (C) Dissolved Oxygen ____ (mg/L) Specific Conductivity ____ (umhos/cm)

Iron ____ (mg/L) Oxidation/Reduction Potential ____ (mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION SE AMBIENT TEMPERATURE 95 F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS: ____

SAMPLER J Rihs OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic Inc.

FIELD SAMPLING REPORT

LOCATION NAS Fort Worth JRB, TX

SITE ~~[illegible]~~ AOC 19

PROJECT NAME: Phase II RFI FT-001

PROJECT NO: AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID ~~FT109-12A[illegible]~~ BHGLAOC1910-01MS

MATRIX TYPE ~~[illegible]~~ SO

SAMPLING METHOD ~~[illegible]~~ DT

LOT CONTROL # 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN OF CUSTODY #: ______

SAMPLE BEG DPETH (FT)

SAMPLE END DPETH (FT)

GRAB ( ) COMPOSITE ( )

DATE: 8-22-01 TIME 1545

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ✓

MATRIX SPIKE DUP (SD) ✓

FIELD DUP (FD) ______

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB082201

TRIP BLANK (TB) ______

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~40 mL VOA~~	~~3~~	~~Cool to 4C HCl to pH<2~~	~~SW8260A~~	~~VOCs (App IX)~~
~~1L~~ 1L Amber 1	1	Cool to 4C	SW8270C	SVOCs (App IX)
~~1L Poly~~	~~1~~	~~Cool to 4C HNO3 pH<2~~	~~SW6010B~~	~~Total Metals (App IX)~~

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0ppm	COLOR		
2nd	ODOR	Non	
	OTHER		

pH ______ Temperature ______ (C) Dissolved Oxygen ______ (mg/L) Specific Conductivity ______ (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential ______ (mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION SE AMBIENT TEMPERATURE 95 F

SHIPMENT VIA FEDEX x HAND DELIVER ___ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER J Rihs OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC - DRILL CUTTINGS	SL = SLUDGE	B = BAILER	G = GRAB
WG - GROUND WATER	SO = SOIL	BP = BLADDER PUMP	HA - HAND AUGER
LH - HAZARDOUS LIQUID WASTE	GS - SOIL GAS	BR = BRASS RING	H = HOLLOW STEM AUGER
SH - HAZRDOUS SOLID WASTE	WS = SURFACE WATER	CS = COMPOSITE SAMPLE	HP - HYDRO PUNCH
SE - SEDIMENT	SW = SWAB/WIPE	C = CONTINUOUS FLIGHT AUGER	SS - SPLIT SPOON
		DT = DRIVEN TUBE	SP - SUBMERSIBLE PUMP

724 337

HYDRO GeoLogic Inc

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX | PROJECT NAME: Phase II RFI FT-001

SITE: ~~WP~~ AOC 19 | PROJECT NO: AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID: ~~[illegible]~~ BH6LAOC1910-01ND

DATE: 8-22-01 TIME: 1545

MATRIX TYPE: ~~[illegible]~~ SO

SAMPLING METHOD: ~~[illegible]~~ DT

LOT CONTROL #: O 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN OF CUSTODY #: _____

SAMPLE BEG DEPTH (FT)

SAMPLE END DEPTH (FT)

GRAB ( ) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE.

MATRIX SPIKE (MS) ✓

MATRIX SPIKE DUP (SD) ✓

FIELD DUP (FD) _____

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB082201

TRIP BLANK (TB) _____

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~40 mL VOA~~	~~3~~	~~Cool to 4C HCl to pH<2~~	~~SW8260A~~	~~VOCs (App IX)~~
~~1L Amber~~	1	Cool to 4C	SW8270C	SVOCs (App IX)
~~1 L Poly~~	~~1~~	~~[illegible]~~	~~[illegible]~~	~~Total Metals (App IX)~~

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0ppm	COLOR	
2nd	ODOR None	
	OTHER	

pH _____ Temperature _____ (C) Dissolved Oxygen _____ (mg/L) Specific Conductivity _____ (umhos/cm)

Iron _____ *(mg/L)* *Oxidation/Reduction Potential* _____ *(mv)* *Turbidity* _____ *(NTU)*

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION SE AMBIENT TEMPERATURE 95 F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO SIL - Chicago

COMMENTS

SAMPLER J Rihs OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO Geologic Inc

FIELD SAMPLING REPORT

724 338

LOCATION	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase II RFI FT-001
SITE:	AOC ~~SWMU~~ 19	PROJECT NO	AFC001-26CQ

SAMPLE INFORMATION

SAMPLE ID: BH6LAOC1910-02 ~~[illegible]~~

DATE: 8-22-01 TIME: ~~1535~~ 1555

MATRIX TYPE: ~~WG~~ SO

SAMPLING METHOD: ~~BP~~ DT

LOT CONTROL # O L L A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #

SAMPLE BEG DEPTH (FT) 4.5

SAMPLE END DEPTH (FT) 5.5

GRAB ( ) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS)

MATRIX SPIKE DUP (SD)

FIELD DUP (FD)

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB082201

TRIP BLANK (TB) N/A

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~40 mL VOA~~	~~3~~	~~Cool to 4C HCl to pH<2~~	~~SW8260A~~	~~VOCs (App IX)~~ NO
4oz ~~1 L Amber~~	1	Cool to 4C	SW8270C	SVOCs (App IX)
~~1 L Poly~~	~~1~~	~~Cool to 4C HNO3 to pH<2~~	~~SW6010B~~	~~Total Metals (App IX)~~ Ag

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0 ppm	COLOR		
2nd	ODOR	NONE	
	OTHER		

pH ______ Temperature ______ (C) Dissolved Oxygen ______ (mg/L) Specific Conductivity ______ (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential ______ (mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION SE AMBIENT TEMPERATURE 95 F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO SIL - Chicago

COMMENTS

SAMPLER J Kuhs OBSERVER: M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 339

HYDRO GeoLogic Inc.

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX   PROJECT NAME: Phase II RFI FT-001

SITE: AOC 19   PROJECT NO AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1910-03   DATE: 8-22-01   TIME: 1605

MATRIX TYPE SO

SAMPLING METHOD DT

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ______

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD) ______

FIELD DUP (FD) ______

AMBIENT BLANK (AB) ______

EQUIPMENT BLANK (EB) EB082201

TRIP BLANK (TB) ______

SAMPLE BEG DPETH (FT) 9.5

SAMPLE END DPETH (FT) 10.5

GRAB ( ) COMPOSITE (X)

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~40 mL VOA~~	~~3~~	~~[illegible]~~	~~SW8260A~~	~~VOCs (App IX)~~
4oz ~~1 L Amber~~	1	Cool to 4C	SW8270C	SVOCs (App IX)
~~1 L Poly~~	~~1~~	~~[illegible]~~	~~SW6010B~~	~~Total Metals (App IX)~~

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0ppm	COLOR	
2nd	ODOR NONE	
	OTHER	

pH ______ Temperature ______ (C) Dissolved Oxygen ______ (mg/L) Specific Conductivity ______ (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential ______ (mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION SE AMBIENT TEMPERATURE 98 F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO. STL - Chicago

COMMENTS. ______

SAMPLER J Rihs   OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase III SI
SITE:	AOC 19	PROJECT NO:	AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1911-0~~2~~3

DATE: 12/05/01 TIME: 1140

MATRIX TYPE: SO

SAMPLING METHOD: DT

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____

SAMPLE BEG DPETH (FT) 9.5

SAMPLE END DPETH (FT) 10.5

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ____

MATRIX SPIKE DUP (SD) ____

FIELD DUP (FD) DUP04

AMBIENT BLANK (AB) ____

EQUIPMENT BLANK (EB) EB120501

TRIP BLANK (TB) TB120501

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz jar	1	Cool to 4C	SW8270	SVOCs (App IX)

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st	0.0	COLOR	10YR 6/6 BROWNISH YELLOW	
2nd		ODOR	NONE	
		OTHER		

pH ____ Temperature ____(C) Dissolved Oxygen ____(mg/L) Specific Conductivity ____(umhos/cm)

Iron ____(mg/L) Oxidation/Reduction Potential ____(mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION S AMBIENT TEMPERATURE 70°

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS. ____

SAMPLER ADAM KARST OBSERVER JONATHAN RIHS

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 341

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX	PROJECT NAME. Phase III SI
SITE: AOC 19	PROJECT NO: AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGLAOC1912-02	DATE: 12/05/01 TIME: 1125
MATRIX TYPE: SO	ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:
SAMPLING METHOD: DT	MATRIX SPIKE (MS) ✓ BHGLAOC19-02 MS
LOT CONTROL #. __ __ __ __ (Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)	MATRIX SPIKE DUP (SD) ✓ BHGLAOC19-02 MSD
CHAIN-OF-CUSTODY #:	FIELD DUP (FD):
	AMBIENT BLANK (AB)
SAMPLE BEG DPETH (FT) 4.5	EQUIPMENT BLANK (EB) EB120501
SAMPLE END DPETH (FT) 5.5	TRIP BLANK (TB) TB120501
GRAB (X) COMPOSITE ( )	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
4 oz jar	1	Cool to 4C	SW8270	SVOCs (App IX)

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0	COLOR	10YR 2/2 V. DARK BROWN	
2nd	ODOR	NONE	
	OTHER		

pH ______ Temperature ______ (C) Dissolved Oxygen ______ (mg/L) Specific Conductivity ______ (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential ______ (mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER. SUN/CLEAR ______ OVERCAST/RAIN X WIND DIRECTION S AMBIENT TEMPERATURE 70°

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER ADAM KRIST OBSERVER JONATHAN GIHS

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic

FIELD SAMPLING REPORT

LOCATION NAS FORT WORTH JRB PROJECT: PHASE III SI

SITE AOC 19 AFC001-26CC

SAMPLE INFORMATION

MATRIX SOIL SAMPLE ID. BHGWAOC1912-03

SAMPLING METHOD DT DUP /REP. OF:

BEGINNING DEPTH 9.5 MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES ( ) NO ( )

END DEPTH 10.5

GRAB (X) COMPOSITE ( ) DATE: 12/05/01 TIME: 1130

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz JAR	1	NONE 4C		8270C	APP IX SVOCS

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.0	COLOR 10YR 6/6 BROWNISH YELLOW	
2nd	ODOR NONE	
	OTHER	

pH ______ Temperature ______ Dissolved oxygen ______ Specific Conductivity ______

GENERAL INFORMATION

WEATHER SUN/CLEAR ____ OVERCAST/RAIN X WIND DRIECTION S AMBIENT TEMP 70°

SHIPMENT VIA: FED-X X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL-CHICAGO

COMMENTS:

SAMPLER ADAM KARST OBSERVER: JONATHAN

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP\WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB\WIPE	SP=SUBMERSIBLE PUMP

724 343

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX

PROJECT NAME: Phase III RFI ~~FT-001~~

SITE: ~~SWMU~~ AOC 19

PROJECT NO: AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGL~~SWMU1938-04~~ AOC 1913-02

DATE: 12/05/01 TIME: 1215

MATRIX TYPE. SO

SAMPLING METHOD: DT

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ______

SAMPLE BEG DPETH (FT) 5'

SAMPLE END DPETH (FT): 5'

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD) ______

FIELD DUP (FD) ______

AMBIENT BLANK (AB) ______

EQUIPMENT BLANK (EB) EB120501

TRIP BLANK (TB). TB120501

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
5g Encore	3	Cool to 4C	SW8260B	TCE ~~Acetone~~

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st	0.0	COLOR	10YR 2/2 VERY DARK BROWN	
2nd		ODOR	NONE	
		OTHER		

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity______ (NTU)

GENERAL INFORMATION

WEATHER. SUN/CLEAR ______ OVERCAST/RAIN X WIND DIRECTION S AMBIENT TEMPERATURE 70°

SHIPMENT VIA· FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO· STL - Chicago

COMMENTS ______

SAMPLER. ADAM KARST OBSERVER JONATHAN RIHS

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase III RFI ~~FT-001~~
SITE:	~~SWMU~~ 19 AOC	PROJECT NO:	AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID BHGL~~SWMU1938-01.5~~ AOC1913-03

DATE: 12/05/01 TIME. 1225

MATRIX TYPE. SO

SAMPLING METHOD: DT

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT): 16'

SAMPLE END DPETH (FT): 16'

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): ______

MATRIX SPIKE DUP (SD): ______

FIELD DUP (FD). ______

AMBIENT BLANK (AB) ______

EQUIPMENT BLANK (EB). EB120501

TRIP BLANK (TB). TB120501

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~4 oz jar~~	~~1~~	~~Cool to 4C~~	~~SW6010, SW7000~~	~~Ba, Cd, Cr, Pb, Zn~~
~~4 oz jar~~	~~1~~	~~Cool to 4C~~	~~SW8270~~	~~2 methnapth/B2EHP/Naphthalene~~
5g Encore	3	Cool to 4C	SW8260B	Ac~~etone/ BTEX/ PCE/~~ TCE

NOTABLE OBSERVATIONS

	PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	0.0	COLOR 10YR 6/8 BROWNISH YELLOW	
2nd		ODOR: NONE	
		OTHER	

pH ______ Temperature ______ (C) Dissolved Oxygen ______ (mg/L) Specific Conductivity ______ (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential ______ (mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ______ OVERCAST/RAIN X WIND DIRECTION S AMBIENT TEMPERATURE 70°

SHIPMENT VIA. FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER. ADAM KARST OBSERVER. JONATHAN RAHS

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 345

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

BEST AVAILABLE COPY

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase II RFI FT-001
SITE	~~SWMU 19~~ AOC	PROJECT NO:	AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID ~~FT09-12AWG01~~ THGLAOC1905-01 DATE: 8-15-01 TIME: 1225

MATRIX TYPE: ~~WG~~ SO

SAMPLING METHOD: ~~BP~~ G

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____

SAMPLE BEG DEPTH (FT) 2.5'

SAMPLE END DPETH (FT) 3

GRAB (✓) COMPOSITE (X)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ____

MATRIX SPIKE DUP (SD) ____

FIELD DUP (FD) ____

AMBIENT BLANK (AB): N/A

EQUIPMENT BLANK (EB) EB081501

TRIP BLANK (TB) TB081501

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~40 mL VOA~~	~~3~~	Cool to 4C ~~HCl to pH<2~~	SW8260A	VOCs (App IX)
~~1 L Amber~~	~~2~~	Cool to 4C	SW8270C	SVOCs (App IX)
~~1 L Poly~~	1	Cool to 4C ~~NaOH pH>9~~	SW6010B/7000	Total Metals (App IX) + Hg

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st		COLOR	brown	
2nd		ODOR	none	
		OTHER		

pH ____ Temperature ____ (C) Dissolved Oxygen ____ (mg/L) Specific Conductivity ____ (umhos/cm)

Iron ____ (mg/L) Oxidation/Reduction Potential ____ (mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE 100°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS ____

SAMPLER: M Johnston OBSERVER: J Kerinaga

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR 11

BEST AVAILABLE COPY

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase II RFI FT-001
SITE:	~~SWMU 19~~ ACC	PROJECT NO:	AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID ~~FT09-12AWG01~~ ID0081501 — DATE: 7-15-01 — TIME: 1235

MATRIX TYPE: ~~WG~~ SO

SAMPLING METHOD ~~BP~~ G

LOT CONTROL #: 0 - 1 - 1 - A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT) 0

SAMPLE END DPETH (FT) 3

GRAB ( ) COMPOSITE (x)

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD): ______

FIELD DUP (FD) ______

AMBIENT BLANK (AB): N/A

EQUIPMENT BLANK (EB) EB081501

TRIP BLANK (TB) TB081501

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
~~40 mL-VOA~~	~~3~~	Cool to 4C ~~HCl to pH<2~~	SW8260A	VOCs (App IX)
~~1-L-Amber~~	~~2~~	Cool to 4C	SW8270C TX1005	~~SVOCs (App IX)~~ TPH
~~1-L Poly~~	1	Cool to 4C ~~NaOH-pH>9~~	SW6010B 7...	Total Metals (App IX) - Hg
4oz	2	Cool to 4 C	SW-846, SW9010, SW9012A	[illegible]

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0 ppm	COLOR	brown	
2nd 0.0 ppm	ODOR	none	
	OTHER		

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity ______ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE 100°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER M Johnston — OBSERVER J Heringer

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 347

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

BEST AVAILABLE COPY

LOCATION.	NAS Fort Worth JRB, TX	PROJECT NAME	Phase II RFI FT-001
SITE	ACC SWMU 19	PROJECT NO·	AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID ~~FT09-12AWG013~~ ZBC21501

DATE. 2-15-01 TIME: 1630

MATRIX TYPE: WG

SAMPLING METHOD: BP G

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT) N/A

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD)· ______

FIELD DUP (FD) ______

AMBIENT BLANK (AB)· N/A

EQUIPMENT BLANK (EB) ______

TRIP BLANK (TB) TBC21401

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl to pH<2	SW8260A	VOCs (App IX)
1 L Amber	2	Cool to 4C	SW8270C	SVOCs (App IX)
1 L Poly	1	Cool to 4C NaOH pH>9 FIN	SW6010B /7000	Total Metals (App IX) + Hg

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR.	
	OTHER	

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity______ (NTU)

GENERAL INFORMATION

WEATHER· SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE 100 F

SHIPMENT VIA. FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO: STL - Chicago

COMMENTS· ______

SAMPLER. J Heringer OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 348

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Hydro Geologic Inc

FIELD SAMPLING REPORT

LOCATION NAS FW JRB

PROJECT NAME Phase II SI

SITE: AOC 19

PROJECT NAME AFC001-26CC

SAMPLE INFORMATION

SAMPLE ID TBC81501

DATE: 3-15-01 TIME 200

MATRIX TYPE. NL

SAMPLING METHOD G

LOT CONTROL #: C 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ______

SAMPLE BEG DEPTH (FT) N/A

SAMPLE END DEPTH (FT)

GRAB ( ) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE.

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD) ______

FIELD DUP (FD) ______

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EBC81501

TRIP BLANK (TB) ______

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40ml vial	2	Cool to 4 C #Error? HCl	SW8260B	VOCs (Appendix) [illegible]

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH ______ Temperature ______(C) Dissolved Oxygen ______(mg/L) Specific Conductivity ______(umhos/cm)

Iron ______(mg/L) Oxidation/Reduction Potential ______(mv) Turbidity______(NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE 166 °F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER M Johnston OBSERVER J Heringer

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION	NAS Fort Worth JRB, TX	PROJECT NAME.	Phase II RFI FT-001
SITE·	AOC 19	PROJECT NO	AFC001-26CEA

SAMPLE INFORMATION

SAMPLE ID WHGLTA~~19E~~050WG01

DATE 2/21/01 TIME 1315

MATRIX TYPE WG

SAMPLING METHOD. BP

LOT CONTROL # __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____________

~~SAMPLE BEG~~ Pump DPETH (FT) 5.7

~~SAMPLE~~ well END DPETH (FT) 7.13

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE·

MATRIX SPIKE (MS) ____________

MATRIX SPIKE DUP (SD) ____________

FIELD DUP (FD) ____________

AMBIENT BLANK (AB) ____________

EQUIPMENT BLANK (EB) ____________

TRIP BLANK (TB) ____________

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH<2	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st .0 ppm	COLOR		
2nd	ODOR	None	
	OTHER		

pH 7.25 Temperature 15.29 (C) Dissolved Oxygen 6.13 (mg/L) Specific Conductivity 139 (umhos/cm)

Iron ________ (mg/L) Oxidation/Reduction Potential 2.35 (mv) Turbidity 4.01 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ______ OVERCAST/RAIN X WIND DIRECTION NW AMBIENT TEMPERATURE 46°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO· STL - Chicago

COMMENTS ____________

SAMPLER M Mahul OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 350

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No: WHGLTA~~19E~~C50	Location: AOC 19
Sampler(s): m mahat /m Johnston	Project Name: Phase II RFI FT-001
Well Depth: 7.03 ft	Project #: AFC001-26CEA Date: 2/21/01 Time: 1710
DTW (ft): 4.4 DTP (ft):	Courier: X FedEx ___ UPS ___ Hand ___ Other
MP Ht Above/Below Ground Surface: n/A	Sampling Method: BP
Condition of Bottom of Well: good	Type of Pump: Bladder
Screen Interval (ft): 7 (-) 2	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): overcast, windy (NW), 46'F
Well Diameter (in): 2	
Placement of Pump (ft): 5.7'	

Field Parameters

* Water level below top of pump

Time	Depth to Water (ft)	Flow Rate (L/m)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1725	*	0.2	Start pump							
1735		0.2	2	7.43	14.84	336	249.5	6.10	60.6	clear, no odor
1740		0.2	3	7.32	14.87	337	251.8	6.28	33.5	
1745		0.2	4	7.28	15.30	340	253.5	6.13	15.2	
1750		0.2	5	7.26	15.29	340	254.6	6.04	12.9	
1755		0.2	6	7.27	15.21	339	255.2	6.05	10.0	
1800		0.2	7	7.25	15.27	340	256.6	6.13	6.1	
1805		0.2	8	7.24	15.23	339	257.0	6.14	4.01	
1810	↓	0.2	9	7.25	15.29	339	252.5	6.13	4.01	clear + stable
1815	Collect WHGLTA050WG01									

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes:

Signed/Sampler(s): [signature]

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION	NAS Fort Worth JRB, TX	PROJECT NAME	Phase II RFI FT-001
SITE	AOC 19	PROJECT NO	AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID WHGLTA~~19F~~ 051 WG01

DATE. 2-22-01 TIME: 1530

MATRIX TYPE WG

SAMPLING METHOD BP

LOT CONTROL #. __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ____________

Pump ~~SAMPLE BEG~~ DPETH (FT) 5.5

well ~~SAMPLE~~ END DPETH (FT) 6.92

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ____________

MATRIX SPIKE DUP (SD) ____________

FIELD DUP (FD): ____________

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB022201

TRIP BLANK (TB) TB022201

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH<2	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
0.0 ppm	COLOR	Clear	
2nd	ODOR	none	
	OTHER		

pH 6.93 Temperature 15.45 (C) Dissolved Oxygen 6.68 (mg/L) Specific Conductivity 365 (umhos/cm)

Iron ________ (mg/L) Oxidation/Reduction Potential 249.6 (mv) Turbidity 6.99 (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION NW AMBIENT TEMPERATURE 43°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ____________

SAMPLER M Mahal OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 352

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.. WHGLTA ~~19~~F051	Location. AOC 19
Sampler(s)· mmahal, M Johnston	Project Name Phase II RFI FT-001
Well Depth 6.92'	Project #. AFC001-26CBA Date: 2-22-01 Time. 1410
DTW (ft) 4.15 DTP (ft):	Courier: X FedEx ___UPS ___Hand ___Other
MP Ht Above/Below Ground Surface: N/A	Sampling Method : BP
Condition of Bottom of Well: good	Type of Pump Bladder
Screen Interval (ft). 6.9 (-) 1.9	Weather (sun/clear, overcast/rain, wind direction, ambient temperature).
Well Diameter (in) 2	Sunny, NW wind, 43°F
Placement of Pump (ft) 5.5	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (L/m)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1425	+	0.1	Start pumping							Cloudy, no odor
1435		0.15	1.25	7.10	15.35	356	239.6	5.55	115	
1440		0.15	2.0	7.02	15.29	355	241.4	5.36	94.1	
1445		0.15	2.75	6.91	14.88	352	245.8	6.05	65.0	
1450		0.15	3.5	6.92	15.08	355	245.9	5.99	51.5	
1455		0.15	4.25	6.93	15.17	358	246.1	4.89	34.2	
1500		0.15	5	6.93	15.19	359	246.5	6.58	24.6	
1505		0.15	5.75	6.92	15.24	361	247.9	7.54	17.7	
1510		0.15	6.5	6.92	15.35	364	249.1	6.94	10.6	
1515		0.15	7.25	6.91	15.34	364	249.6	6.76	7.9	
1520		0.15	8	6.92	15.42	365	249.8	6.69	6.65	
1525		0.15	8.75	6.93	15.45	365	249.6	6.68	6.99	
1530	Collect sample WHGLTA051WG01									

+ DTW below top of pump.

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes·

Signed/Sampler(s): MJohnston

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase II RFI FT-001
SITE:	AOC 19	PROJECT NO.	AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID WHGLTA~~19GWG01mg~~ 052WG01

DATE 02-22-01 TIME: 1600

MATRIX TYPE: WG

SAMPLING METHOD: BP

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ________

SAMPLE BEG DPETH (FT)

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE.

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD) ______

FIELD DUP (FD) ______

AMBIENT BLANK (AB) ______

EQUIPMENT BLANK (EB) EB022201

TRIP BLANK (TB) TB022201

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH < 2	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
0.0 ppm	COLOR	clear no color	
2nd 0.0 ppm	ODOR	" " "	
	OTHER		

pH 7.25 Temperature 15.48 (C) Dissolved Oxygen 4.76 (mg/L) Specific Conductivity 326 (umhos/cm)

Iron ____ (mg/L) Oxidation/Reduction Potential 147.3 (mv) Turbidity 5.0 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ____ OVERCAST/RAIN ____ WIND DIRECTION NE 12mph AMBIENT TEMPERATURE 50°

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER R. Wallace OBSERVER J Rihs

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR 11

724 354

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: WHGLTA~~190~~052	Location: AOC 19
Sampler(s): R. Wallace, J. Rihs	Project Name: Phase II RFI FT-001
Well Depth: 6.99'	Project #: AFC001-26CE · 02-22-01 Date: 1455 Time:
DTW (ft): 4.46' · DTP (ft): —	Courier ___FedEx ___UPS ___Hand ___Other
MP Ht Above/Below Ground Surface: 0.4'	Sampling Method: BP
Condition of Bottom of Well: Clean	Type of Pump: QED Bladderpump
Screen Interval (ft) (-) 2'-7'	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): NE 10mph 54°
Well Diameter (in): 2"	
Placement of Pump (ft) screen: 5.73'	

4.46
+1.27
5.73
DTW screen

Field Parameters

Time	Depth to Water (ft)	Flow Rate ~~(L/m)~~	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1505	Ground	0.05	0.25	7.56	15.41	320.0	117.3	5.53	57.2	slightly cloudy no odor
1510	water	0.05	0.5	7.49	15.33	327.0	119.3	5.08	45.2	" "
1515	below	0.05	0.75	7.43	15.51	327.0	123.3	4.94	39.7	" "
1520	top of	0.05	1.0	7.37	15.78	328.0	120.0	4.84	31.9	" "
1525	pump	0.05	1.25	7.34	16.02	331.0	127.4	4.91	25.1	Clear no odor
1530		0.05	1.50	7.30	16.12	336.0	132.9	4.92	19.7	" "
1535		0.05	1.75	7.27	15.80	334.0	137.3	4.90	14.2	" "
1540		0.05	2.0	7.26	15.44	327.0	141.3	4.80	12.0	" "
1545		0.05	2.25	7.27	15.32	325.0	143.5	4.54	8.7	" "
1550		0.05	2.5	7.26	15.43	326.0	144.3	4.71	7.0	" "
1555		0.05	2.75	7.25	15.45	326.0	147.3	4.76	5.0	" "
Collect sample										

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes:

Signed/Sampler(s):

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FIELD SAMPLING REPORT

HYDRO GeoLogic INC

LOCATION	NAS Fort Worth JRB, TX	PROJECT NAME	Phase II RFI FT-001
SITE.	AOC 19	PROJECT NO·	AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID WHGLTA004WG01

DATE· 2/22/01 TIME 1040

MATRIX TYPE. WG

SAMPLING METHOD: BP

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ____________

SAMPLE BEG DPETH (FT)

~~SAMPLE~~ Well END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ________

MATRIX SPIKE DUP (SD) ________

FIELD DUP (FD) ________

AMBIENT BLANK (AB). ________

EQUIPMENT BLANK (EB) N/A 'dedicated pump

TRIP BLANK (TB) TB022201

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH < 2	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
0 ppm	COLOR	Clear	
2nd "	ODOR	none	
	OTHER		

pH ________ Temperature ________(C) Dissolved Oxygen ________(mg/L) Specific Conductivity ________(umhos/cm)

Iron ________(mg/L) Oxidation/Reduction Potential ________(mv) Turbidity ________ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ✓ OVERCAST/RAIN ______ WIND DIRECTION NW AMBIENT TEMPERATURE 45°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO. STL - Chicago

COMMENTS· ________________

SAMPLER MMahal OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 356

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No WHGLTA004	Location. AOC 19
Sampler(s): mmahal, MJohnston	Project Name Phase II RFI FT-001
Well Depth: 23.3'	Project #: AFC001-26CEA — Date. 2/22/01 Time. 915
DTW (ft) 17.01 — DTP (ft). N/A	Courier X FedEx ___UPS ___Hand ___Other
MP Ht. Above/Below Ground Surface: -0.2	Sampling Method : BP
Condition of Bottom of Well: good	Type of Pump. Dedicated bladder
Screen Interval (ft): (13.3 - 23.3)	Weather (sun/clear, overcast/rain, wind direction, ambient temperature). Sunny, winds from NW, 35°F
Well Diameter (in). 2	
Placement of Pump (ft): Dedicated	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (L/m)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1000	17.01	0.2	Start pump						8.1	Clear
1005	17.02	0.2	1	7.31	18.54	450	180.4	2.14	8.1	
1010	17.02	0.2	2	7.28	18.59	439	182.8	2.05	7.7	
1015	17.02	0.2	3	7.03	18.84	400	192.1	1.87	6.6	
1020	17.02	0.2	4	6.87	19.23	383	200.1	2.11	5.3	
1025	17.02	0.2	5	6.81	19.34	380	201.3	1.73	5.21	
1030	17.02	0.2	6	6.78	19.31	380	202.4	1.88	4.77	
1035	17.02	0.2	7	6.78	19.30	379	203.3	1.98	4.29	
1040	~~17.02~~	~~0.2~~	~~8~~	Collect sample WHGLTA004WG01						

Observations

Color: Clear Other (describe).

Odor None Low Medium High Very Strong H2S Fuel-like

Notes

Signed/Sampler(s). MMahal, MJohnston

724 357

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME	Phase II RFI FT-001
SITE:	AOC 19	PROJECT NO:	AFC001-26CE A

SAMPLE INFORMATION

SAMPLE ID WHGLTA801WG01

DATE: 2/22/01 TIME: 1230

MATRIX TYPE: WG

SAMPLING METHOD: BP

LOT CONTROL # __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

Pump ~~SAMPLE BEG~~ DPETH (FT) 10.8'

Well ~~SAMPLE~~ END DPETH (FT) 13.95'

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE.

MATRIX SPIKE (MS) ______

MATRIX SPIKE DUP (SD) ______

FIELD DUP (FD) DUP04

AMBIENT BLANK (AB) ______

EQUIPMENT BLANK (EB) EB022201

TRIP BLANK (TB) TB022201

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH<2	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
0.0ppm	COLOR		
2nd	ODOR	none	
	OTHER		

pH 6.68 Temperature 18.26 (C) Dissolved Oxygen 2.34 (mg/L) Specific Conductivity ~~203.2~~ 356 (umhos/cm)

Iron ______ (mg/L) Oxidation/Reduction Potential 203.2 (mv) Turbidity 6.93 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE 43°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______

SAMPLER M Mahal OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE .	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 358

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No. WHGLTA801	Location: AOC 19
Sampler(s) M Mahal, M Johnston	Project Name Phase II RFI FT-001
Well Depth. 13.95	Project #: AFC001-26CEA · Date. 2/22/01 · Time 1110
DTW (ft). 7.84' · DTP (ft).	Courier: X FedEx ___UPS ___Hand ___Other
MP Ht. Above/Below Ground Surface:	Sampling Method . BP
Condition of Bottom of Well: good	Type of Pump: Bladder
Screen Interval (ft): 14(-) 4	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sun, 43F, N winds
Well Diameter (in) 2	
Placement of Pump (ft): 10.8	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (L/m)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1125	7.90	0.25	Start pump							
1135	7.89	0.25	2.5	6.27	16.94	360	235.1	5.88	55	
1140	7.89	0.25	3.75	6.79	17.58	354	230.9	5.04	32.5	
1145	7.89	0.25	5.0	6.74	17.49	352	221.7	4.57	19.43	
1150	7.89	0.25	6.25	6.72	17.67	353	226.5	2.06	14.26	
1155	7.89	0.25	7.5	6.71	17.97	354	222.6	4.10	8.55	
1200	7.90	0.25	8.75	6.71	18.21	357	215.6	4.07	10.65	
1205	7.90	0.25	10	6.68	18.40	358	212.7	4.00	8.59	
1210	7.90	0.25	11.25	6.68	18.35	359	208.9	4.10	9.45	
1215	7.90	0.25	12.5	6.68	18.41	362	204.1	2.03	5.05	
1220	7.90	0.25	13.75	6.69	18.23	360	203.2	2.29	5.28	
1225	7.90	0.25	15	6.68	18.26	356	203.2	2.34	6.93	
1230	Collect WHGLTA801WG01									

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes:

Signed/Sampler(s).

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME.	Phase II RFI FT-001
SITE:	AOC 19	PROJECT NO	AFC001-26CE-~~A~~ mg

SAMPLE INFORMATION

SAMPLE ID ~~WHGLTA801WG01~~ mg DUP04

DATE. 2/22/01 TIME: ~~1230~~ mg 1200

MATRIX TYPE: WG

SAMPLING METHOD: BP

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______________

Pump ~~SAMPLE BEG~~ DPETH (FT) 10.8'

well ~~SAMPLE~~ END DPETH (FT) 13.95'

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ________

MATRIX SPIKE DUP (SD) ________

FIELD DUP (FD) DUP04 - WHGLTA801WG01

AMBIENT BLANK (AB) ________

EQUIPMENT BLANK (EB) EB022201

TRIP BLANK (TB) TB022201

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH<2	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
0.0ppm	COLOR	
	ODOR none	
	OTHER	

pH 6.68 Temperature 18.26 (C) Dissolved Oxygen 2.34 (mg/L) Specific Conductivity ~~203.2~~ 356 (umhos/cm)

Iron ________ (mg/L) Oxidation/Reduction Potential 203.2 (mv) Turbidity 6.93 (NTU)

GENERAL INFORMATION

WEATHER. SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE 43°F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS ______________

SAMPLER M Mahal OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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724 360

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION. NAS Fort Worth JRB

PROJECT NAME ~~AOC #15~~ Phase II RFI/SI

SITE AOC 19 + SWMU 19

PROJECT NAME AFC001-~~16BBD~~ 26CEA

SAMPLE INFORMATION

SAMPLE ID ~~EB04-007~~ EB022201

DATE: 2/22/01 TIME. 1430

MATRIX TYPE: WG

SAMPLING METHOD. G

LOT CONTROL #: __ __ __ __

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ____

SAMPLE BEG DEPTH (FT) N/A

SAMPLE END DEPTH (FT) N/A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS) ____

MATRIX SPIKE DUP (SD) ____

FIELD DUP (FD) ____

AMBIENT BLANK (AB) ____

EQUIPMENT BLANK (EB) ____

TRIP BLANK (TB) ____

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C/HCl to pH<2	SW8260B	VOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR	
2nd	ODOR	
	OTHER	

pH ____ Temperature ____ (C) Dissolved Oxygen ____ (mg/L) Specific Conductivity ____ (umhos/cm)

Iron ____ (mg/L) Oxidation/Reduction Potential ____ (mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NW AMBIENT TEMPERATURE 43°F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL -

COMMENTS ____

SAMPLER M Johnston OBSERVER M Mahal

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR 11

HYDRO GeoLogic Inc

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX
PROJECT NAME: Phase II RFI FT-001, Round 2 Groundwat
SITE: AOC 19
PROJECT NO. AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID WHGLTA050WG02
DATE: 4/6/01 TIME: 1430

MATRIX TYPE: WG

SAMPLING METHOD: BP

LOT CONTROL #: D 9 1 A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT) —
SAMPLE END DPETH (FT) —
GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —
MATRIX SPIKE DUP (SD): —
FIELD DUP (FD): —
AMBIENT BLANK (AB): —
EQUIPMENT BLANK (EB): EB 040601
TRIP BLANK (TB) TB 040601

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH <2	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
4.0 PPM	COLOR:	clear	
2nd 4.0 PPM	ODOR:	none	
	OTHER:		

pH 6.62 Temperature 20.01 (C) Dissolved Oxygen 3.64 (mg/L) Specific Conductivity 410 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 230.4 (mv) Turbidity 2.8 (NTU)

GENERAL INFORMATION

WEATHER: partly SUN/CLEAR ____ OVERCAST/RAIN ____ WIND DIRECTION South AMBIENT TEMPERATURE 70.5 °F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS: ______

SAMPLER Christopher Donohue OBSERVER Kent Duran

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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724 362

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: WHGLTA050	Location: AOC 19
Sampler(s): C. Donohue, K. Owen	Project Name: Phase II RFI FT-001, Round 2 Groundwater
Well Depth: 7.00'	Project #: AFC001-26CE — Date: 4/6/01 Time: 1352
DTW (ft): 4.87 — DTP (ft): —	Courier: ✓ FedEx ___ UPS ___ Hand ___ Other
MP Ht. Above/Below Ground Surface: -0.112	Sampling Method: ~~SP~~ Low Flow
Condition of Bottom of Well: Hard	Type of Pump: Bladder Pump
Screen Interval (ft): (2.03 - 7.03)	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in): 2	partly sunny, south wind, 70's °F
Placement of Pump (ft): 5.94'	

Field Parameters

Time	Depth to Water (ft)	[illegible] Rate	[illegible] Volume	pH	Temp.	Cond.	ORP	DO	Turb.	[illegible]
1352	—*	0.140	0	6.86	21.68	429	181.3	4.83	28.2	
1357	—	0.14	0.7	6.69	21.96	432	199.6	4.02	24.1	
1402	—	0.14	1.4	6.66	22.17	434	209.3	3.98	16.6	
1407	—	0.10	1.9	6.71	21.69	428	199.6	4.47	12.3	
1412	—	0.10	2.4	6.63	21.93	424	212.4	3.84	7.0	
1417	—	0.10	2.9	6.60	20.02	412	221.4	3.73	4.7	
1422	—	0.10	3.4	6.60	19.82	409	226.9	3.67	4.3	
1427	—	0.10	3.9	6.62	20.01	410	230.4	3.64	2.8	
1430	Samples taken									

Observations

Color: Clear Other (describe): clear

Odor: None Low Medium High Very Strong H2S Fuel-like none

Notes: * Note = can't take depth to water - pump sticks up above water level -

Signed/Sampler(s): [signatures] Kent Owen

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GROUNDWATER FIELD SAMPLING DATA SHEET

Well No: WHGLTA051	Location. NAS Fort Worth JRB, Texas
Sampler (s) C. Donohue, K. Duran	Project Name. April 2001 Semi-Annual Sampling
Well Depth. 6.93'	Project #: AFC001-33OAA Date: 4/6/01 Time: 1017
DTW (ft): 4.25' DTP (ft): —	Courier: _X_ FedEx ___ UPS ___ Hand ___ Other
MP Ht. Above/Below GS: -0.071	Sampling Method: Low Flow
Condition of Bottom of Well	Type of Pump: Bladder
Screen Interval (ft): ~~10-24~~ 2-7	Weather (sun/clear, overcast/rain, wind direction, ambient temperature):
Well Diameter (in) 2	partly sunny, humid, south wind, 70's °F
Placement of Pump Inlet (ft). 5.59'	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (L/min)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mV)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1021	—*	0.110	0	7.20	19.65	446	177.6	6.52	112	
1026	—	0.110	0.55	7.08	19.01	351	180.8	5.32	138	
1031	—	0.110	1.1	6.99	18.96	329	185.9	4.45	108	
1036	—	0.110	1.65	6.87	19.33	364	190.8	3.56	69	
1041	—	0.110	2.2	6.78	19.94	399	192.6	2.83	49	
1046	—	0.110	2.75	6.73	20.29	424	193.7	2.46	32	
1051	—	0.110	3.3	6.70	20.44	440	194.9	2.12	21.9	
1056	—	0.110	3.85	6.67	20.37	447	196.2	1.84	18.1	
1101	—	0.110	4.4	6.63	20.34	508	202.3	1.69	15.5	
1106	—	0.110	4.95	6.65	19.42	447	198.3	1.35	10.6	
1111	—	0.110	5.5	6.64	19.56	441	197.1	1.21	9.8	
1116	—	0.110	6.05	6.64	20.10	455	197.0	1.22	6.7	
1121	—	0.110	6.6	6.64	20.41	458	197.2	1.24	6.0	
1125	samples taken									

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes: * can't measure depth to water - pump sticks up above waterline.

Signed/Sampler(s): [signatures]

724 364

FIELD SAMPLING REPORT

HydroGeoLogic Inc

LOCATION: NAS Fort Worth JRB, Texas

SITE: ______

PROJECT NAME: April 2001 Semi-Annual Sampling

PROJECT NAME: AFC001-33DAA

SAMPLE INFORMATION

SAMPLE ID WHGLTA051WG14

DATE: 4/6/01 TIME: 1125

MATRIX TYPE: WG

SAMPLING METHOD: Low Flow

LOT CONTROL #: 0 Φ 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler

CHAIN-OF-CUSTODY #:

SAMPLE BEG DEPTH (FT): N/A

SAMPLE END DEPTH (FT): N/A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB) EB040601

TRIP BLANK (TB) TB040601

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C/HCl to pH<2	SW8260B	VOCs

NOTABLE OBSERVATIONS

PID READINGS / SAMPLE CHARACTERISTICS / MISCELLANEOUS

1st 0 COLOR: Clear

2nd 0 ODOR: None

OTHER:

pH 6.64 Temperature ~~17.65~~ 28.41 (C) Dissolved Oxygen 0.52 (mg/L) Conductivity ~~4.76~~ .458 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential ~~77.6~~ 193.2 (mv) Turbidity 6.0 (NTU)

GENERAL INFORMATION

WEATHER partly SUN/CLEAR ______ OVERCAST/RAIN ______ WIND DIRECTION South AMBIENT TEMPERATURE 70's °F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL Chicago

COMMENTS

SAMPLER: C. Donohue OBSERVER: A. Duran

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDG	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WAST	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WAST	WS=SURFACE WATE	CS=COMPOSITE SAMPLE	HP=HYDRO PUNC
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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GROUNDWATER FIELD SAMPLING DATA SHEET

Well No: WHGLTA052	Location: AOC 19
Sampler(s): K. Drreen, C. Do~~h~~	Project Name: Phase II RFI FT-001, Round 2 Groundwater
Well Depth: 6.94	Project #: AFC001-26CE / Date: 4/6/01 Time: 1215
DTW (ft): 4.52 / DTP (ft): na	Courier: ✓ FedEx ___ UPS ___ Hand ___ Other
MP Ht. Above/Below Ground Surface: -0.122	Sampling Method: Low Flow
Condition of Bottom of Well: 5.44	Type of Pump: Bladder Pump
Screen Interval (ft): (1.99 - 6.99)	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): S/SE 85°F
Well Diameter (in): 2	
Placement of Pump (ft): 5.73	

Field Parameters

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1215	See below	.280	0	6.5	19.8	426	209	5.46	187	
1224	↓	.09	1.40	6.7	20.5	418	226	4.28	14.5	
1225		.09	1.85	6.6	21.3	435	228	4.29	10.3	
1234		.09	2.3	6.6	21.4	426	231	4.25	5.7	
1239		.09	2.75	6.6	20.7	428	235	4.17	4.6	
1244		.09	3.2	6.6	19.8	418	237	4.11	5.1	
1249		.09	3.65	6.6	19.9	420	239	4.08	5.9	
1254		.09	4.1	6.6	19.9	419	240	4.08	4.4	
1259	Collect Sample									

Observations

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very Strong H2S Fuel-like None

Notes: Depth of top of pump above water table level.

Signed/Sampler(s): Kat Dunn [signature]

724 368

HYDRO GeoLogic INC.

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX — PROJECT NAME: Phase II RFI FT-001, Round 2 Groundwat

SITE: AOC 19 — PROJECT NO: AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID: WHGLTA052WG02 — DATE: 4/6/01 — TIME: 1259

MATRIX TYPE: WG

SAMPLING METHOD: BP

LOT CONTROL #: C 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG. DEPTH (FT): NA

SAMPLE END DEPTH (FT): NA

GRAB (✓) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

- MATRIX SPIKE (MS): —
- MATRIX SPIKE DUP (SD): —
- FIELD DUP (FD): —
- AMBIENT BLANK (AB): —
- EQUIPMENT BLANK (EB): EB040601
- TRIP BLANK (TB): TB040601

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH<2	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 5.4	COLOR	Clear	
2nd	ODOR	none	
	OTHER		

pH 6.6 Temperature 19.9 (C) Dissolved Oxygen 4.08 (mg/L) Specific Conductivity 419 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 240 (mv) Turbidity 4.4 (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ____ WIND DIRECTION S/SE AMBIENT TEMPERATURE 80°F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS: ______

SAMPLER: C. Donohue — OBSERVER: K. Dunn

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic Inc

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, Texas	PROJECT NAME:	April 2001 Semi-Annual Sampling
SITE:		PROJECT NAME:	AFC001-33DAA

SAMPLE INFORMATION

SAMPLE ID WHGLTA004WG14

DATE: 3/21/01 TIME: 1450

MATRIX TYPE: WG

SAMPLING METHOD: Low Flow

LOT CONTROL #: 0 0 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler

CHAIN-OF-CUSTODY #.

SAMPLE BEG DEPTH (FT). N|A

SAMPLE END DEPTH (FT) N|A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS). —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) —

TRIP BLANK (TB) TB032601

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C/HCl to pH<2	SW8260B	VOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 5.1	COLOR:	clear	
2nd	ODOR:	none	
	OTHER:		

pH 6.9 Temperature 19.7 (C) Dissolved Oxygen 2.0 (mg/L) Conductivity 512 (umhos/cm)

Iron NA (mg/L) Oxidation/Reduction Potential 265 (mv) Turbidity 7.4 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ____ OVERCAST/RAIN ✓ WIND DIRECTION N/NE AMBIENT TEMPERATURE 58F

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL -Chicago

COMMENTS.

SAMPLER: A Karst OBSERVER: K. Duran

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDG	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WAST	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WAST	WS=SURFACE WATE	CS=COMPOSITE SAMPLE	HP=HYDRO PUNC
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR.11

724, 068

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: WHGLTA004	Location: NAS Fort Worth JRB, Texas
Sampler (s): K. Duran, A. Karst	Project Name: April 2001 Semi-Annual Sampling
Well Depth: NA	Project #: AFC001-33DAA Date: 3/26/01 Time: 1408
DTW (ft): 17.0 DTP (ft): 14.20	Courier: X FedEx ___UPS ___Hand ___Othe
MP Ht. Above/Below GS: 0.2	Sampling Method: Low Flow
Condition of Bottom of Well: NA	Type of Pump: Bladder
Screen Interval (ft): 13.3 - 23.3	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): N/NE 54°
Well Diameter (in): 2	
Placement of Pump Inlet (ft): 21	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (mL/min)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mV)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1414	17.02	150	0	7.0	18.9	495	264	241	6.9	clear
1419	17.03	100	.45	6.9	19.19	505	265	2.24	6.8	
1424	17.03	100	.95	6.8	19.3	507	265	2.1	6.7	
1429	17.03	100	1.45	6.8	19.2	507	266	2.05	5.1	
1434	17.02	100	1.95	6.8	19.2	507	267	2.02	5.5	
1439	17.02	100	2.45	6.8	19.4	509	267	2.0	4.2	
1444	17.02	100	2.95	6.8	19.7	512	265	2.0	3.4	
1450	Collect	Samples								

Observations

Color: Clear Other (describe): clear

Odor: None Low Medium High Very Strong H2S Fuel-like none

Notes:

Signed/Sampler(s): [signature] [signature]

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX — PROJECT NAME: Phase II RFI FT-001

SITE: AOC 19 — PROJECT NO: AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID WHGLTA801WG02 — DATE. 4/6/01 — TIME: 1000

MATRIX TYPE: WG

SAMPLING METHOD BP

LOT CONTROL #: 12 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT): N/A

SAMPLE END DPETH (FT): N/A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): DUP06WG02

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB): EB040601

TRIP BLANK (TB): TB040601

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH < 2	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 100 ppm	COLOR	clear	
2nd 0 ppm	ODOR	none	
	OTHER.		

pH 6.51 Temperature 20.26 (C) Dissolved Oxygen 0.88 (mg/L) ~~Specific~~ Conductivity 424 (umhos/cm)

Iron N/A (mg/L) Oxidation/Reduction Potential 257.1 (mv) Turbidity 3.62 (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION S AMBIENT TEMPERATURE 75°

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS: ______

SAMPLER B. Karst — OBSERVER: J. Wallau

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR 11

724 370

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX | PROJECT NAME: Phase II RFI QC

SITE: | PROJECT NO: AFC001-~~26EE~~ 26CE

SAMPLE INFORMATION

SAMPLE ID ~~TH~~ DUP06 | DATE: 4/6/01 | TIME: 1200 [actual time 1000]

MATRIX TYPE: GW

SAMPLING METHOD LOW FLOW

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE BEG DPETH (FT): N/A

SAMPLE END DPETH (FT): N/A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): WHGLTA801WG02

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB) EB040601

TRIP BLANK (TB) TB040601

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH < 2	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 100 ppm	COLOR: clear	
2nd 0 ppm	ODOR: none	
	OTHER	

pH 6.51 Temperature 20.26 (C) Dissolved Oxygen 0.88 (mg/L) Specific Conductivity 424 (umhos/cm)

Iron N/A (mg/L) Oxidation/Reduction Potential 257.1 (mv) Turbidity 3.62 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ______ OVERCAST/RAIN X WIND DIRECTION S AMBIENT TEMPERATURE 75°

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO: STL - Chicago

COMMENTS ______

SAMPLER A. Karst OBSERVER J. Wallace

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR.11

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: WHGLTA801	Location: AOC 19
Sampler(s): A. Karst J. Wallace	Project Name. Phase II RFI FT-001
Well Depth: 13.90	Project #: AFC001-25CE | Date: 4/6/01 Time: 0924
DTW (ft): 9.03 | DTP (ft): —	Courier: X FedEx ___ UPS ___ Hand ___ Other
MP Ht. Above/Below Ground Surface:	Sampling Method: ~~BP~~ 4v LOW FLOW
Condition of Bottom of Well: firm	Type of Pump: Bladder
Screen Interval (ft): (-) 4-14	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): overcast, S, 75°
Well Diameter (in): 2"	
Placement of Pump (ft): (inlet) 11	

Field Parameters

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0936	*	0.2	0	6.48	20.06	422	286.0	1.00	10.24	
0939		0.2	0.6	6.49	20.14	423	280.0	0.97	9.46	
0942		0.2	1.2	6.50	20.05	422	278.1	0.95	7.64	
0945		0.2	1.8	6.49	19.97	421	275.6	0.92	6.01	
0948		0.2	2.4	6.49	19.93	421	272.0	0.90	4.71	
0951		0.2	3.0	6.49	19.97	421	269.3	0.89	3.30	
0954		0.2	3.6	6.50	20.05	422	263.7	0.88	4.05	
0957		0.2	4.2	6.51	20.26	424	257.1	0.88	3.62	
1000	collect	samples								

Observations

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very Strong H2S Fuel-like none

Notes: * DTW below top of pump

Difficult to maintain flow rate less than 0.2 L/min.

Signed/Sampler(s): JWallace William Karst

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724 372

HYDRO GeoLogic Inc

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, Texas	PROJECT NAME: April 2001 Semi-Annual Sampling
SITE: ______	PROJECT NAME: AFC001-33DAA

SAMPLE INFORMATION

SAMPLE ID TB040601	DATE: 4/6/01 TIME: 0705
MATRIX TYPE: WG	ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:
SAMPLING METHOD: Low Flow	MATRIX SPIKE (MS) —
LOT CONTROL #: 0 1 1 A	MATRIX SPIKE DUP (SD) —
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler	FIELD DUP (FD) —
CHAIN-OF-CUSTODY #:	AMBIENT BLANK (AB) —
SAMPLE BEG. DEPTH (FT): N/A	EQUIPMENT BLANK (EB) E8040601
SAMPLE END DEPTH (FT): N/A	TRIP BLANK (TB) TB040601
GRAB (X) COMPOSITE ( )	

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C/HCl to pH<2	SW8260B	VOCs

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st —	COLOR: —	
2nd —	ODOR: —	
	OTHER:	

pH — Temperature — (C) Dissolved Oxygen — (mg/L) Conductivity — (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential — (mv) Turbidity — (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR ______ OVERCAST/RAIN * WIND DIRECTION S AMBIENT TEMPERATURE 80°

SHIPMENT VIA: FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO: STL -Chicago

COMMENTS:

SAMPLER: J. Wallace OBSERVER: A. Karst

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDG	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WAST	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WAST	WS=SURFACE WATE	CS=COMPOSITE SAMPLE	HP=HYDRO PUNC
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR 11

HYDRO Geologic INC

FIELD SAMPLING REPORT

LOCATION. NAS Fort Worth JRB, TX — PROJECT NAME: Phase II RFI QC

SITE: — PROJECT NO: AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID EB 040601 — DATE. 4/6/01 — TIME: 1540

MATRIX TYPE: WATER

SAMPLING METHOD: GRAB

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #:

SAMPLE BEG DPETH (FT): N/A

SAMPLE END DPETH (FT): N/A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD): —

FIELD DUP (FD): —

AMBIENT BLANK (AB): —

EQUIPMENT BLANK (EB): EB040601

TRIP BLANK (TB): TB040601

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C HCl pH < 2	SW8260B	VOCs (App IX)
1 L Poly	1	Cool to 4C NaOH pH > 9	SW6010B	Total Metals (App IX)
1 L Amber	2	Cool to 4C	SW8270C	SVOCs (App IX)

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st —	COLOR.	—	
2nd —	ODOR:	—	
	OTHER:		

pH — Temperature — (C) Dissolved Oxygen — (mg/L) Specific Conductivity — (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential — (mv) Turbidity — (NTU)

GENERAL INFORMATION

WEATHER. SUN/CLEAR ____ OVERCAST/RAIN X WIND DIRECTION S AMBIENT TEMPERATURE 80°

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. STL - Chicago

COMMENTS

SAMPLER. J. Wallace — OBSERVER: A. Karst

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR.11

724 374

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase II SI, Round 3
SITE:	AOC 19	PROJECT NO:	AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID WHGLTA050-WG03

DATE. 6/15/2001 TIME: 1000

MATRIX TYPE. WG

SAMPLING METHOD. BP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____________

SAMPLE ~~BEG~~ Pump DPETH (FT) 6.57

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) WHGLTA055-WG03

MATRIX SPIKE DUP (SD) WHGLTA055-WG03

FIELD DUP (FD) DUP07

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB061501

TRIP BLANK (TB) TB061501

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 0.0 ppm	COLOR		
2nd	ODOR		
	OTHER		

pH 6.29 Temperature 22.05 (C) Dissolved Oxygen 4.71 (mg/L) Specific Conductivity 289 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 334.1 (mv) Turbidity 2.7 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N/A AMBIENT TEMPERATURE 88 F

SHIPMENT VIA. FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO. STL - Chicago

COMMENTS

SAMPLER K Duran OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR 11

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.. WHGLTA050	Location: AOC 19
Sampler(s). K. Duran, M Johnston	Project Name: Phase II SI, Round 3
Well Depth: 7.12	Project #: AFC001-26CE Date: 6/15/01 Time: 910
DTW (ft). 6.02 DTP (ft): N/A	Courier X FedEx ___ UPS ___ Hand ___ Other
MP Ht. Above/Below Ground Surface: -0.112	Sampling Method : BP
Condition of Bottom of Well:	Type of Pump Bladder
Screen Interval (ft): (2.03 - 7.03)	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, humid, little to no wind, 80's
Well Diameter (in): 2	
Placement of Pump (ft): 6.57	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (L/m)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
920	6.05	Start pump		—	—	—	—	—	—	Clear, no odor
925	6.04	0.175	0.875	6.14	21.98	289	340.5	4.67	8.1	
930	6.04	0.175	1.75	6.19	21.95	289	304.2	4.52	6.5	
935	6.04	0.175	~~2.75~~ 2.625	6.21	22.01	289	340.4	4.69	4.3	
940	5.93	0.175	2.8	6.24	22.19	290	339.0	4.66	4.1	
945	5.92	0.2	3.8	6.26	22.19	290	337.2	4.77	4.4	
950	5.93	0.2	4.8	6.27	21.93	289	336.3	4.65	3.0	
955	5.93	0.2	5.8	6.29	22.05	289	334.1	4.71	2.7	
1000	Collect sample									

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes:

Signed/Sampler(s): MJohnston

724 376

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX — PROJECT NAME: Phase II SI, Round 3

SITE: AOC 19 — PROJECT NO: AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID WHGLTA051-WG03

DATE: 6/15/01 TIME: 1105

MATRIX TYPE: WG

SAMPLING METHOD: BP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ______

SAMPLE ~~BEG~~ pump DPETH (FT) 6.03

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) WHGLTA055-WG03MS

MATRIX SPIKE DUP (SD) WHGLTA055-WG03MD

FIELD DUP (FD) DUP07

AMBIENT BLANK (AB): N/A

EQUIPMENT BLANK (EB) EB061501

TRIP BLANK (TB) TB061501

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 7.7	COLOR		
2nd 0.0	ODOR		
	OTHER		

pH 6.44 Temperature 23.67 (C) Dissolved Oxygen 2.13 (mg/L) Specific Conductivity 313 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 307.2 (mv) Turbidity 5.4 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N/A AMBIENT TEMPERATURE 88 F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS

SAMPLER: K Duran OBSERVER: M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No: WHGLTA051	Location: AOC 19
Sampler(s): K Duran, M Johnston	Project Name: Phase II SI, Round 3
Well Depth: 6.80	Project #: AFC001-26CE Date: 6/15/01 Time: 1015
DTW (ft): 5.26 DTP (ft): N/A	Courier: X FedEx ___ UPS ___ Hand ___ Other
MP Ht. Above/Below Ground Surface: -0.071	Sampling Method: BP
Condition of Bottom of Well: Silty	Type of Pump: Bladder
Screen Interval (ft): (1.92 - 6.92)	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, very little breeze, humid, high 80's
Well Diameter (in): 2	
Placement of Pump (ft): 6.03'	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (L/m)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1020	5.10	Start pump								Cloudy, no odor
1025	5.35	0.175	0.875	6.67	24.51	141	321.3	6.45	104	Cloudy
1030	5.37	0.175	1.75	6.67	23.18	159	325.4	3.06	139	Cloudy
1035	5.39	0.175	2.62	6.48	22.94	228	329.8	2.11	88	Cloudy
1040	5.35	0.175	3.40	6.42	23.12	287	323.7	2.07	29	Clearing up
1045	5.32	0.175	4.28	6.42	23.13	299	318.7	2.21	16.4	
1050	5.29	0.175	5.16	6.41	23.15	305	316.1	2.15	9.3	Clear
1055	5.28	0.175	6.04	6.43	23.30	310	310.3	2.14	6.6	Clear
1100	5.28	0.175	6.92	6.44	23.67	313	307.2	2.13	5.4	Clear
1105	Collect sample									

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes:

Signed/Sampler(s): M Johnston

724 078

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase II SI, Round 3
SITE	AOC 19	PROJECT NO:	AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID WHGLTA052-WG03

DATE: 6/26/01 TIME: 1346

MATRIX TYPE WG

SAMPLING METHOD: BP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____________

SAMPLE BEG DPETH (FT) N/A

SAMPLE END DPETH (FT) N/A

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE

MATRIX SPIKE (MS): —

MATRIX SPIKE DUP (SD) —

FIELD DUP (FD) —

AMBIENT BLANK (AB) —

EQUIPMENT BLANK (EB) EB062601

TRIP BLANK (TB) TB062601

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st NA	COLOR	clear	
2nd NA	ODOR	none	
	OTHER		

pH 6.85 Temperature 25.73 (C) Dissolved Oxygen 9.11 (mg/L) Specific Conductivity 142 (umhos/cm)

Iron N/A (mg/L) Oxidation/Reduction Potential 288 (mv) Turbidity 4.7 (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION E AMBIENT TEMPERATURE 90°

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS: ____________

SAMPLER K.Duran OBSERVER J-Wallace

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR 11

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No . WHGLTA052	Location AOC 19
Sampler(s): K.Duran, J. Wallace	Project Name: Phase II SI, Round 3
Well Depth: 6.88	Project #: AFC001-26CE — Date: 6/26/01 Time 1300
DTW (ft): 5.26 DTP (ft): ——	Courier: ___FedEx ___UPS ___Hand ___Other
MP Ht. Above/Below Ground Surface: -0.122	Sampling Method : ~~BP~~ LOW FLOW
Condition of Bottom of Well: firm	Type of Pump: BLADDER PUMP
Screen Interval (ft): (1.99 - 6.99)	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sunny, 90°, E
Well Diameter (in): 2	
Placement of Pump (ft): TOP 3.07	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (L/m)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1304	5.11	0.15	0	7.10	25.64	139	251	4.07	50.7	
1309	5.12	0.15	0.75	6.85	24.20	137	279	4.07	37.9	
1314	5.12	0.15	1.50	6.82	23.97	136	285	4.07	22.3	
1319	5.12	0.15	2.25	6.83	23.92	136	290	4.05	14.5	
1324	5.12	0.15	3.00	6.83	23.13	134	294	4.06	11.6	
1329	5.12	0.15	3.75	6.86	24.30	137	293	4.06	10.0	
1334	5.12	0.15	4.50	6.88	25.24	140	290	4.11	6.4	
1339	5.12	0.15	5.25	6.87	25.61	141	289	4.11	4.4	
1344	5.12	0.15	6.00	6.85	25.73	142	288	4.11	4.7	
1346	collect samples									

Observations

Color: Clear Other (describe): Clear

Odor: None Low Medium High Very Strong H2S Fuel-like none

Notes: initial DTW prior to lowering pump = 5.26

Signed/Sampler(s): J. Wall

724 330

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION:	NAS Fort Worth JRB, TX	PROJECT NAME:	Phase II SI, Round 3
SITE:	AOC 19	PROJECT NO:	AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID WHGLTA004-WG03

DATE: 6/15/2001 TIME: 1340

MATRIX TYPE: WG

SAMPLING METHOD: BP

LOT CONTROL #: O 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____________

SAMPLE BEG DPETH (FT) Dedicated

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) WHGLTA055-WG03MS

MATRIX SPIKE DUP (SD) WHGLTA055-WG03MD

FIELD DUP (FD) DUP07

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB N/A

TRIP BLANK (TB). TB061501

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 49.8 ppm	COLOR:	Clear	
2nd 5.1 ppm	ODOR	none	
"	OTHER		

pH 6.39 Temperature 23.38 (C) Dissolved Oxygen 2.50 (mg/L) Specific Conductivity 296 (umhos/cm)

Iron —— (mg/L) Oxidation/Reduction Potential 296.9 (mv) Turbidity 2.8 (NTU)

GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION ______ AMBIENT TEMPERATURE 90°F

SHIPMENT VIA: FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO STL - Chicago

COMMENTS:

SAMPLER. E Duran OBSERVER: M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

AFCEE FORM SR 11

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.: WHGLTA004	Location. AOC 19
Sampler(s): K Duran, M Johnston	Project Name: Phase II SI, Round 3
Well Depth: *	Project #: AFC001-26CE — Date: 6/15/01 Time. 1245
DTW (ft): * — DTP (ft): N/A	Courier: X FedEx ___UPS ___Hand ___Other
MP Ht. Above/Below Ground Surface: -0.2	Sampling Method : BP
Condition of Bottom of Well: Unknown	Type of Pump: Dedicated bladder
Screen Interval (ft): (13.3 - 23.3)	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sun, very little breeze,
Well Diameter (in): 2	
Placement of Pump (ft). Dedicated	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (L/m)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1300	*	Start	pumping							
1305	*	0.3	1.5	6.49	22.49	296	316.7	2.94	83	
1310	↓	0.2	2.5	6.30	22.42	290	324.7	2.70	5.2	
1315		0.2	3.5	6.33	22.90	293	319.4	2.51	5.3	
1320		0.2	4.5	6.37	22.03	293	314.1	2.55	4.2	
1325		0.2	5.5	6.40	23.55	297	306.7	2.67	2.7	
1330		0.2	6.5	6.38	23.24	~~277~~ 295	279.1	2.53	2.1	
1335		0.2	7.5	6.39	23.38	296	291.9	2.50	2.8	
1340	↓	Collect sample WHGLTA004-0603								

Observations

Color: (Clear) Other (describe):

Odor: (None) Low Medium High Very Strong H2S Fuel-like

Notes: * 18.25' top of pump. Couldn't gauge dtw or td

Signed/Sampler(s): M Johnston

724 382

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX

PROJECT NAME: Phase II SI, Round 3

SITE: AOC 19

PROJECT NO: AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID WHGLTA801-WG03

DATE: 6/14/01 TIME: 1610

MATRIX TYPE: WG

SAMPLING METHOD: BP

LOT CONTROL #: 0 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY # ______

SAMPLE ~~BEG~~ pump DPETH (FT) 8.54

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE.

MATRIX SPIKE (MS) WHGLTA055-WG03MS

MATRIX SPIKE DUP (SD) WHGLTA055-WG03MD

FIELD DUP (FD) DUP07

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB061401

TRIP BLANK (TB) TB061401

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 3.7 ppm	COLOR	Clear	
2nd 0.0 ppm	ODOR	none	
	OTHER		

pH 10.40 Temperature 24.59 (C) Dissolved Oxygen 2.10 (mg/L) Specific Conductivity 301 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 190.1 (mv) Turbidity 5.7 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ______ WIND DIRECTION S/SE AMBIENT TEMPERATURE 95 °F

SHIPMENT VIA FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO: STL - Chicago

COMMENTS

SAMPLER K Duran OBSERVER M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION: NAS Fort Worth JRB, TX — PROJECT NAME: Phase II SI, Round 3

SITE: AOC 19 — PROJECT NO: AFC001-26CE

SAMPLE INFORMATION

SAMPLE ID ~~WHGLTA801~~ DUP07 — DATE: 6/14/01 — TIME 1200

MATRIX TYPE: WG

SAMPLING METHOD: BP

LOT CONTROL #: 0 1 1 19

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #. ______

SAMPLE BEG DPETH (FT) ~~NTPD~~ 8.54

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS): WHGLTA055-W603MS

MATRIX SPIKE DUP (SD) WHGLTA055-W603MD

FIELD DUP (FD). WHGLTA201WCC5

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB061401

TRIP BLANK (TB) EB061401

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
40 mL VOA	3	Cool to 4C	SW8260B	TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS		MISCELLANEOUS
1st 3.7	COLOR	clear	
2nd 0.0	ODOR	none	
	OTHER		

pH 6.40 Temperature 24.57 (C) Dissolved Oxygen 2.10 (mg/L) Specific Conductivity 301 (umhos/cm)

Iron — (mg/L) Oxidation/Reduction Potential 190.1 (mv) Turbidity 5.7 (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ______ OVERCAST/RAIN ______ WIND DIRECTION S/SE AMBIENT TEMPERATURE 95°F

SHIPMENT VIA: FEDEX x HAND DELIVER ______ COURIER ______ OTHER ______

SHIPPED TO: STL - Chicago

COMMENTS: ______

SAMPLER K Duran — OBSERVER. M Johnston

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

724 384

GROUNDWATER FIELD SAMPLING DATA SHEET

Well No.. WHGLTA801	Location: AOC 19
Sampler(s) K Duran M Johnston	Project Name: Phase II SI, Round 3
Well Depth. 13.94	Project #: AFC001-26CE — Date: 6/14/01 Time: 1500
DTW (ft): 9.13 — DTP (ft): N/A	Courier. X FedEx ___UPS ___Hand ___Other
MP Ht. Above/Below Ground Surface:	Sampling Method : BP
Condition of Bottom of Well: Good	Type of Pump. Bladder
Screen Interval (ft): (-)	Weather (sun/clear, overcast/rain, wind direction, ambient temperature): Sun, windy (S/SE), 96°F
Well Diameter (in): 2	
Placement of Pump (ft): 5.54	

Field Parameters

Time	Depth to Water (ft)	Flow Rate (L/m)	Total Volume (L)	pH	Temp. (C)	Cond. (umhos/cm)	ORP (mv)	DO (mg/L)	Turb. (NTU)	Type, Size, and Amount of Sediment Discharged
1520	8.90	Start pump								
1525	8.86	0.24	1.2	6.56	25.61	310	163.7	5.44	240 ~~234~~	
1530	8.85	0.175	2.08	6.36	25.17	305	190.7	3.74	180	
1535	8.86	0.175	2.96	6.38	25.28	305	189.9	2.85	68	
1540	8.87	0.175	3.84	6.40	25.28	306	190.8	2.34	29	
1545	8.87	0.175	4.72	6.41	25.62	307	189.6	2.16	17.2	
1550	8.87	0.175	5.60	6.42	25.91	309	187.1	2.15	10.4	Compressor overheated
1555	8.86	0.2	6.60	6.49	24.62	314	187.8	2.32	7.8	Stop pump change compress
1600	8.86	0.2	7.60	6.40	24.44	300	192.2	2.22	5.9	
1605	8.86	0.2	8.60	6.40	24.59	301	190.1	2.10	5.7	
1610	Collect sample (WHGLTA801-W603 and DUP07)									

Observations

Color: Clear Other (describe):

Odor: None Low Medium High Very Strong H2S Fuel-like

Notes: There was 4" standing water in

Signed/Sampler(s): M Johnston

HYDRO GeoLogic INC

FIELD SAMPLING REPORT

724 385

LOCATION. NAS Fort Worth JRB, TX PROJECT NAME: RFI Landfills Investegation

SITE: SWMU 17 /AOC 19 PROJECT NO: AFC001-33CBC /26CG

SAMPLE INFORMATION

SAMPLE ID TB061501 DATE: 6/15/01 TIME: 730

MATRIX TYPE. W

SAMPLING METHOD: G

LOT CONTROL #: C L L A
(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____

SAMPLE BEG DPETH (FT) N/A

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ____

MATRIX SPIKE DUP (SD). ____

FIELD DUP (FD) ____

AMBIENT BLANK (AB) N/A

EQUIPMENT BLANK (EB) EB061501

TRIP BLANK (TB): ____

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
1 L Amber	10	Cool to 4C HCl	SW8260B	BTEX + TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
N/A	COLOR	
2nd	ODOR	
	OTHER.	

pH ____ Temperature ____(C) Dissolved Oxygen ____(mg/L) Specific Conductivity ____(umhos/cm)

Iron ____(mg/L) Oxidation/Reduction Potential ____(mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N/A AMBIENT TEMPERATURE 73°F

SHIPMENT VIA: FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: STL - Chicago

COMMENTS: ____

SAMPLER: K Duncan OBSERVER [illegible signature]

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

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HYDRO GeoLogic INC

FIELD SAMPLING REPORT

LOCATION	NAS Fort Worth JRB, TX	PROJECT NAME:	RFI Landfills Investigation
SITE.	SWMU 17 /AOC 19	PROJECT NO:	AFC001-33CBC /2CCE

SAMPLE INFORMATION

SAMPLE ID EB061501

DATE: 6/15/01 TIME. 1415

MATRIX TYPE. W

SAMPLING METHOD: G

LOT CONTROL # C 1 1 A

(Ambient Blank # - Equipment Blank # - Trip Blank # - Cooler #)

CHAIN-OF-CUSTODY #: ____

SAMPLE BEG DPETH (FT) N/A

SAMPLE END DPETH (FT)

GRAB (X) COMPOSITE ( )

ENTER SAMPLE NUMBERS FOR QC SAMPLES/ BLANKS ASSOCIATED WITH THIS SAMPLE:

MATRIX SPIKE (MS) ____

MATRIX SPIKE DUP (SD) ____

FIELD DUP (FD) ____

AMBIENT BLANK (AB). N/A

EQUIPMENT BLANK (EB) ____

TRIP BLANK (TB) TB061501

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYTICAL METHOD	ANALYSIS
1 L Amber	10	Cool to 4C HCl	SW8260B	BTEX + TCE

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st N/A	COLOR	
2nd	ODOR	
	OTHER	

pH ____ Temperature ____(C) Dissolved Oxygen ____(mg/L) Specific Conductivity ____(umhos/cm)

Iron ____(mg/L) Oxidation/Reduction Potential ____(mv) Turbidity ____ (NTU)

GENERAL INFORMATION

WEATHER SUN/CLEAR ____ OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMPERATURE ____

SHIPMENT VIA FEDEX x HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO STL - Chicago

COMMENTS: ____

SAMPLER: ____ OBSERVER ____

MATRIX TYPE CODES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BP=BLADDER PUMP	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	BR=BRASS RING	H=HOLLOW STEM AUGER
SH=HAZRDOUS SOLID WASTE	WS=SURFACE WATER	CS=COMPOSITE SAMPLE	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAB/WIPE	C=CONTINUOUS FLIGHT AUGER	SS=SPLIT SPOON
		DT=DRIVEN TUBE	SP=SUBMERSIBLE PUMP

CHAINS OF CUSTODY

STL
Committed To *Your* Success

Chicago Laboratory
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax 708-534-5211

Report To:
Contact: Chris Camp
Company: HydroGeoLogic
Address: 1155 Herndon PKWY Suite 900, Herndon VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: ccamp@hgl.com

Bill To:
Contact: (SAME)
Company:
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only 1 of 1

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No COC not present	

Sampler Name: Jorie Wilson
Signature: [signature]
Project Name: SI Phase I
Project Number: AFCOOL-26CC
Project Location: NAS FW JRB, Texas
Date Required Hard Copy: / /
Fax: / /
Lab PM: Donna Ingersol

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Metals + Hg (6010B/7471)	SVOCs (8270C)	VOCs (8260B)	VOCs (8260B)	Additional Analyses / Remarks
Refrg #											
#/Cont.											
Volume							4oz	4oz	40ml	40ml	
Preserv							6	6	6	HCl	
		BHGLADC1901-02	5-12-00	1515	S	G	1	1	3		
		BHGLADC1901-03	↓	1545	S	G	1	1	3		
		BHGLADC1901-01	↓	1510	S	G	1	1	3		
~~(gw)~~		~~BHGLADC1901-01~~									
		TB051200	↓	800	W	G				HW 2	

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
Jorie Wilson	HydroGeoLogic	5/12/00	1800				

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O =

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS: ~~*Hold additional Soil volume for SPLP~~
TB051200 is associated with the COC for AFCOOL-33CBB

Date Received / /
Courier. Hand Delivered ☐
Bill of Lading.

724 388

STL Committed To *Your* Success

Chicago Laboratory
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

Report To:
Contact: Chris Camp
Company: HydroGeoLogic
Address: 1155 Herndon Pkwy Herndon VA 20170
Phone: (703) 478-5186
Fax:
E-Mail: CCamp@HGL.Com

Bill To:
Contact: — Same —
Company:
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only 1 of 2

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No COC not present	

Sampler Name: J. Wilson
Signature: [signature]
Project Name: D026 Phase I RFI/SI
Project Number: AF0001-26CC
Project Location: NAS Ft Worth
Lab PM:
Date Required Hard Copy: / /
Fax: / /

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	*metals + Hg (6010B)	*VOCs (8260B)	*SVOCs (8270C)								Additional Analyses / Remarks
Refrg #																	
# Cont.																	
Volume							4oz	5g	4oz								
Preserv							6	6	6								
		BHGLAOC1801-01	5/15/06	1305	S	G	1	3	1								
		BHGLAOC1801-02		1315			1	3	1								
		BHGLAOC1801-03		1330			1	3	1								
		BHGLAOC1802-01		1405			1	3	1								
		BHGLAOC1802-02		1416			1	3	1								
		BHGLAOC1802-03		1430			1	3	1								
		DUP04		1515			1	3	1								
		BHGLAOC1803-01		1505			1	3	1								
		BHGLAOC1803-02		1510			1	3	1								
		BHGLAOC1803-03		1530			1	3	1								
		DUP05		1630			1	3	1								

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
Jorie Wilson	HydroGeoLogic	5/15/06	1830				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ____

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS: please hold extra Volume for SPLP analyses
* use Appendix IX Lists

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Chicago Laboratory
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

Report To:
Contact: Chris Camp
Company: HydroGeoLogic
Address: 1155 Herndon Pkwy, Herndon, VA 20170
Phone: (703) 478-5186
Fax:
E-Mail:

Bill To:
Contact: — same —
Company:
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal [illegible] Only 1 of 2

Sampler Name: J. Wilson
Signature: J Wilson
Project Name: DD26 Phase I RFI/SI
Project Number: AFCC01-26CC
Project Location: NAS Ft Worth
Lab PM:
Date Required Hard Copy: __/__/__
Fax: __/__/__

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	* metals+Hg (6010B)	* VOCs (8260B)	* SVOCs (8270C)	* metals+Hg (6010B)	* VOCs (8260B)	* SVOCs (8270C)
Refrg #												
#/Cont.												
Volume							4oz	5g	4oz	1L	40ml	1L
Preserv							6	6	6	3	1	6
		BHG-LAOC1902-01	5/15/00	0850	S	G	1	3	1			
		BHGLAOC1902-02		0855			1	3	1			
		BHGLAOC1903-01		0935			1	3	1			
		BHG-LAOC1903-02		0950			1	3	1			
		BHG-LAOC1904-01		1040			1	3	1			
		BHG-LAOC1904-02		1100			1	3	1			
		DUP06		0835			1	3	1			
	Y	BHGLAOC1904-01MS		1040			1	3	1			
	Y	BHGLAOC1904-01MSD		1040			1	3	1			
		EB051500		1730						1	3	1
		TB051500		800							2	

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice Yes No	**Samples Intact** Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	**Preserv. Indicated** Yes No NA
pH Check ok Yes No NA	**Res. Cl_2 Check ok** Yes No NA
Sample Labels and COC Agree Yes No COC not present	

Lab Lot #

Additional Analyses / Remarks

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
J. Wilson	HydroGeoLogic	5/15/00	1830				

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ______

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ______

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS: Please hold extra volume for SPLP analyses. Use Appendix IX lists

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2417 Bond Street
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Report To:
Contact: CHRIS CAMP
Company: HYDROGEOLOGIC, INC
Address: 1155 HERNDON PKWY STE #900 HERNDON, VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: CCAMP@HGL.COM

Bill To:
Contact: - SAME -
Company:
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only 1 of 1

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No COC not present	

Sampler Name: ERIC DAMBAUGH
Signature: E Dambaugh
Project Name: PHASE I RFI/SI
Project Number: AFC001-21CC
Project Location: NAS FORT WORTH JRB
Date Required Hard Copy: / /
Fax: / /
Lab PM: DONNA INGERSOLL

Refrg #:
#/ Cont.:
Volume: 5g | 40ml
Preserv: 6 | 1

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	VOCS SW8260B	VOCS SW8260B	Additional Analyses / Remarks
		BHG1AOC1901-01	5/26/00	0825	S	G	3		
		BHG1AOC1901-02	5/26/00	0830	S	G	3		
		BHG1AOC1901-03	5/26/00	0845	S	G	3		
		TB052600	5/26/00	0800	W	G		2	
		EB052600	5/26/00	1145	W	G		3	

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
E Dambaugh	HYDROGEOLOGIC, INC	5/26/00	1300				

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O =

Container Key
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3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS
- APPENDIX IX LISTS
- SAVE EXTRA VOLUME FOR SPLP ANALYSIS

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Shaded Areas For Internal [Use O]nly 1 of 1

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STL Chicago
2417 Bond Street
University Park, IL 60466
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Fax 708-534-5211

Report To:
Contact: Kim Evers
Company: HydroGeoLogic, Inc
Address: 1155 Herndon Pkwy STE 900
Herndon, VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: kevers@hgl.com

Bill To:
Contact: Kim Evers
Company: (same)
Address:
Phone:
Fax:
PO#: Quote:

Lab Lot#

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check OK Yes No NA	Res Cl_2 Check OK Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Sampler Name: M Johnston
Signature: M Johnston
Project Name: Phase II RFI / SI
Project Number: AFC001-26CD
Project Location: NAS FW JRB
Date Required — Hard Copy: __/__/__ Fax: __/__/__
Lab PM: Donne Ingersoll

								Refrg #		
								# / Cont.	3	3/2
								Volume	8oz Encore	40mL VOAs
								Preserv	7	1
Laboratory ID	**MS MSD**	**Client Sample ID**	**Sampling Date**	**Sampling Time**	**Matrix**	**Comp/Grab**	SW8260B TCE	SW8260B TCE/AFCEE list VOCs	**Additional Analyses / Remarks**
		WH6LTA050-01	2/7/01	1145	S	G	X		
		WH6LTA050-02		1150	S	G	X		
		WH6LTA051-01		1310	S	G	X		
		WH6LTA051-02		1315	S	G	X		
		WH6LTA052-02		1420	S	G	X		
		EB020701		1630	W	G		X	also associated w/ D.O.33CBC
		TB020701	↓	1130	W	G		X	also associated w/ D.O 33CBC

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
M Johnston	Hydrogeologic	2/7/01	1700				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O =

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4
3 HNO3, Cool to 4
4 NaOH, Cool to 4
5 NaOH/Zn, Cool to 4
6 Cool to 4
7 None

COMMENTS

Date Received __/__/__
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Shaded Areas For Internal Use Only 1 of 1

SEVERN TRENT SERVICES

STL Chicago
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Report To:
Contact: Kim Evers
Company: HydroGeologic, Inc.
Address: 1155 Herndon Pkwy STE 900, Herndon VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: Kevers@hgl.com

Bill To:
Contact: Kim Evers
Company: (Same)
Address:
Phone:
Fax:
PO#: Quote:

Lab Lot#

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	Samples Intact
Yes No	Yes No

Temperature °C of Cooler

Within Hold Time	Preserv. Indicated
Yes No	Yes No NA
pH Check OK	Res Cl_2 Check OK
Yes No NA	Yes No NA

Sample Labels and COC Agree: Yes No COC not present

Sampler Name: M Johnston
Signature: [signature]
Project Name: Phase II RFI/SI
Project Number: AFC001-26CE[illegible]
Project Location: NAS FW JRB
Date Required: Hard Copy: __/__/__ Fax: __/__/__
Lab PM: Donna Ingersoll

							SW8260B Appl VOC	SW8270C SVOCs	SW6010B/7470 Appl IX metals+Hg	SW8260B TCE	
Refrg #											
# / Cont.							3	2	1	3	
Volume							40ml	1L	1L	40mL	
Preserv							1	7	3	1	
Laboratory ID	**MS-MSD**	**Client Sample ID**	**Sampling Date**	**Sampling Time**	**Matrix**	**Comp/Grab**					**Additional Analyses / Remarks**
		WHGLTA055WG01	2/20/01	1620	W	G	X	X	X		Associated w/EB022101
		WHGLTA053WG01	2/20/01	1350	W	G	X	X	X		Associated w/EB022001
		WHGLTA056WG01	2/21/01	1155	W	G	X	X	X		associated w/EB022101
		DUP03	2/21/01	1200	W	G	X	X	X		associated w/EB022101
		WHGLTA050WG01	2/21/01	1815	W	G				X	associated w/EB022101
		EB022101	2/21/01	1830	W	G	X	X	X		also associated w/D.O.33
		EB022001	2/20/01	1800	W	G	X	X	X		also associated w/D.O.33
		FT09-12BWG01	2/21/01	1700	W	G	X	X	X		assoc w/EB022101
	X	FT09-12BWG01MS	2/21/01	1700	W	G	X	X	X		assoc. w/EB022101
	X	FT09-12BWG01MD	2/21/01	1700	W	G	X	X	X		assoc. w/EB022101
		TB022001	2/20/01	0730	W	G	X				assoc. w/all samples collected

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
M Johnston	HydroGeologic	2/21/01	1840				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ______

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ______

Preservative Key
1 HCl Cool to 4
2 H2SO4, Cool to 4
3 HNO3 Cool to 4°
4 NaOH Cool to 4°
5 NaOH/Zn, Cool to 4
6 Cool to 4°
7 None

COMMENTS

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Courier
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SEVERN TRENT SERVICES

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone 708 534-5200
Fax 708 534-5211

Report To:
Contact: Kim Evers
Company: HydroGeoLogic, Inc.
Address: 1155 Herndon Pkwy STE 900
Herndon, VA 20170
Phone: 703-478-5126
Fax: 703-471-4180
E Mail: kevers@hgl.com

Bill To:
Contact: Kim Evers
Company: (same)
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only 1 of 1

Lab Lot #: 9B026272

Package Sealed: Yes (circled) No	Samples Sealed: Yes No (circled)
Received on Ice: Yes (circled) No	Samples Intact: Yes (circled) No

Temperature °C of Cooler: 2.7

Within Hold Time: Yes (circled) No	Preserv. Indicated: Yes (circled) No NA
pH Check OK: Yes No NA	Res Cl_2 Check OK: Yes (circled) No NA

Sample Labels and COC Agree: Yes (circled) No COC not present

Sampler Name: M Johnston
Signature: M Johnston
Project Name: Phase II RFI/SI
Project Number: AFC001-26CEA
Project Location: NAS FW JRB
Lab PM: Donna Ingersoll
Date Required — Hard Copy: __/__/__ Fax: __/__/__

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	SW8260B Appix VOCs	SW8270C Appix SVOCs	SW6010B/7470 Appix metals	SW8260B TCE	Additional Analyses / Remarks
Refrg #											
# / Cont.							3	2	1	3	
Volume							40mL VOA	1L Amber	1L poly	40mL	
Preserv							1	7	3	1	
001		FT09-12CW601	2/22/01	1030	W	G	X	X	X		
002		WH6LTA004	↓	1040	W	G				X	
003		WH6LTA801		1230	W	G				X	
004		WH6LTA051		1530	W	G				X	
005		WH6LTA052		1600	W	G				X	
006		DUP04		1200	W	G				X	
007		EB022201		1630	W	G				X	
008		TB022201		1000	W	G				X	Only 2 40ml VOA vials

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
M Johnston	HydroGeoLogic	2/22/01	1450	[signature]	STL	2/23/01	1345

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ____

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other

Preservative Key
1 HCl, Cool to 4
2 H2SO4, Cool to 4
3 HNO3, Cool to 4
4 NaOH, Cool to 4
5 NaOH/Zn, Cool to 4
6 Cool to 4
7 None

COMMENTS

Date Received: 2/23/01
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University Park, IL 60466
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Fax 708-534-5211

Report To:
Contact: Kim Evers
Company: Hydrogeologic
Address: 1155 Herndon Pkwy Ste 900 Herndon VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E Mail: KEVERS@hgl.com

Bill To:
Contact: Kim [illegible]
Company:
Address: (Same)
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only ___ of ___

Lab Lot#

Package Sealed: Yes No	Samples Sealed: Yes No
Received on Ice: Yes No	Samples Intact: Yes No
Temperature °C of Cooler	
Within Hold Time: Yes No	Preserv. Indicated: Yes No NA
pH Check OK: Yes No NA	Res Cl_2 Check OK: Yes No NA
Sample Labels and COC Agree: Yes No	COC not present

Sampler Name: Adam Koist
Signature: [signature]
Project Name: NAS FW [illegible] RFI - Rd 2 GW
Project Number: AFC001-26CE
Project Location: NAS Fort Worth JRB
Date Required: Hard Copy: __/__/__ Fax: __/__/__
Lab PM: Donna Ingersoll

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	App IX Volatile (SW8260B)	Total Metals App IX (SW6010B)	App IX SVOCs (SW8270C)	Additional Analyses / Remarks
Refrg #										
# / Cont.							2	1	4	
Volume							40mL	1L	1L	
Preserv							1	3	7	
		EB040601	4-6-01	1540	W	G	3	1	2	
		WHGLTA801WG02	|	1000	W	G	3			
		WHGLTA056WG02	|	1239	W	G	3	1	2	
		DUP05WG02	|	1300	W	G	3	1	2	
		DUP06WG02	|	1200	W	G	3			
		WHGLTA055WG02	|	1507	W	G	3	1	2	
		WHGLTA054WG02	|	1703	W	G	3	1	2	
		WHGLTA050WG02		1430	W	G	3			
		WHGLTA052WG02		1259	W	G	3			
		WHGLTA053WG02		1644	W	G	3	1	2	

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	Hydrogeologic	4/6/01					

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ______

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ______

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4
4 NaOH, Cool to 4°
5 NaOH/Zn, Cool to 4
6 Cool to 4
7 None

COMMENTS
*Associate EB040601 w/ Samples collected for Project 33DAA.
*EB040601 is w/ Samples from ~~Project~~ 33DAA

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University Park, IL 60466
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Fax 708-534-5211

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Report To:
Contact: Kim Even
Company: Hydro Geologic Inc
Address: 1155 Herndon Pkwy STE 900 Herndon VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: keven@hgl.com

Bill To:
Contact: Kim Even
Company: (same)
Address:
Phone:
Fax:
PO# Quote

Shaded Areas For Interna Only 1 of 1

Lab Lot#

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check OK Yes No NA	Res Cl_2 Check OK Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Sampler Name: Margaret Johnston
Signature: M Johnston
Project Name: Phase II SI
Project Number: AFC001-26CE
Project Location: Ellsworth AFB
Date Required Hard Copy: __/__/__ Fax. __/__/__
Lab PM: Tom Pringle

Refrg #													
# / Cont.													
Volume													
Preserv													

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	8260B VOCs TCE												Additional Analyses / Remarks
		WHGLTA80FW603	6/14/01	1610	W	6	X												Associated with EB061401
		DUP07	6/14/01	1200	W	6	X												and TB061401 on the
																			AFC001-37CBC Chain of
																			Custody

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[illegible signature]	Hydrogeologic	6/14/01	1710				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
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OL = Oil
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DL = Drum Liquid
L = Leachate
WI = Wipe
O = ______

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4 Amber Glass
5 Widemouth Glass
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Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn, Cool to 4°
6 Cool to 4°
7 None

COMMENTS

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Contact: Kevin Evers
Company: HydroGeologic
Address: 1155 Herndon Pkwy STE 900, Herndon VA 20170
Phone: (703) 477-5186
Fax: (703) 471-4180
E-Mail: Kevers@hgl.com

Bill To:
Contact: Kevin Evers
Company: Same
Address:
Phone:
Fax:
PO#: Quote:

Lab Lot#

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check OK Yes No NA	Res Cl_2 Check OK Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Sampler Name: M Johnston
Signature: [signature]
Project Name: Phase II SI
Project Number: AF(001-26CE
Project Location: FW JRB
Date Required Hard Copy: __/__/__ Fax: __/__/__
Lab PM: Dianna Ingersoll

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	SW8260B TCE	SW8260B TCE/BTEX									Additional Analyses / Remarks
Refrg #																	
#/Cont.																	
Volume							3 x 40 VOA	3 x 40 VOA									
Preserv							1	1									
		WHKLTA050-W603	6/15/01	1000	W	G	X										
		WHKLTA051-W603	↓	1105	W	G	X										
		WHKLTAC04-W603	↓	1340	W	G	X										
		EB061501	↓	1415	W	G		X									also associated with samples
		TB061501	↓	730	W	G		X									WHKLTA709 and DUP061501
																	(AF(001-33CBE)

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
M Johnston	HydroGeologic	6/15/01	1700				

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ______

Container Key
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2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ______

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn, Cool to 4°
6 Cool to 4°
7 None

COMMENTS

Date Received / /
Courier: Hand Delivered ☐
Bill of Lading

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2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

Report To:
Contact: Kim Evers
Company: HydroGeoLogic, Inc.
Address: 1155 Herndon Pkwy St 900
Herndon VA 20170
Phone: 703-478-5186
Fax: 703-471-4180
E-Mail: Kevers@hgl.com

Bill To:
Contact: Kim Evers
Company: (same)
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only 1 of 1

Lab Lot#

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check OK Yes No NA	Res Cl_2 Check OK Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Sampler Name: Kent Duran
Signature: K Duran
Project Name: Phase II S.I., Rd. 3
Project Number: AF1001-26CE
Project Location: NAS FW JRB, Texas
Date Required Hard Copy: __/__/__ Fax: __/__/__
Lab PM: Donna Tregersel

Refrg #							
# / Cont.	2						
Volume	40ml						
Preserv	1						

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	TCE SW8260B									Additional Analyses / Remarks
		WHGLTA052-WG03	6/26/01	1346	W	G	3									

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	Hydrogeologic	6/26/01	1711				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ______

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ______

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn, Cool to 4°
6 Cool to 4°
7 None

COMMENTS
Associate TB062601 from AF1001-29BBDA, Associate EB062601 associated w/ samples from EEG001-01BD64

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Fax 708-534-5211

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Report To		Bill To	
Contact	Kim Evers	Contact	Kim Evers
Company	HydroGeologic, Inc	Company	(same)
Address	1155 Herndon Pkwy STE 900, Herndon VA 20170	Address	
Phone	703-478-5126	Phone	
Fax	703-471-4180	Fax	
E-Mail	kevers@hgl.com	PO#	Quote

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. indicated Yes No NA
pH Check ok Yes No NA	Res Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No COC not present	

Sampler Name	M Johnston
Signature	M Johnston
Project Name	Phase II SI
Project/Number	AFCCC1-26CC
Project Location	NAS FW JRB
Date Required Hard Copy	/ /
Fax	/ /
Lab PM	Donna Ingersoll

Refrg # / #/ Cont / Volume / Preserv

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	SW8260B VOC (AppIX) + Cis 1,2-DCE	SW8270C SVOCs (AppIX)	SW6010B/7471 Metals + Hg	SW8260B TCE	SW8260B VOCs (AppIX) + Cis 1,2-DCE	SW8270C SVOCs (AppIX)	SW6010B/7470 Metals + Hg				Additional Analyses / Remarks
		BHGLAOC1905-01	7-20-01	1530	S	G	X	X	X								
		BHGLAOC1905-02	↓	1550	S	G	X	X	X								
		BHGLAOC1905-03		1600	S	G	X	X	X								
		BHGLAOC1906-02		1435	S	G				X							
		BHGLAOC1906-03		1450	S	G				X							
		BHGLAOC1907-03		1400	S	G				X							
		DUPO32001		1200	S	G				X							
		EBO82001		1640	W	G					X	X	X				
		TBO82001	↓	900	W	G					X						

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
M Johnston	HydroGeologic	7-20-01	1740				

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ______

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ______

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS
App IX list VOCs also include w/ 1,2-DCE

EB and TB also associated w/ BHGLSW005-04 on AFCC1-29B803 COC

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Contact	Kim Evers
Company	HydroGeoLogic, Inc.
Address	1155 Herndon Pkwy STE 900, Herndon, VA 20170
Phone	703-478-5186
Fax	703-471-4180
E Mail	kevers@hgl.com

Contact	Kim Evers
Company	(same)
Address	
Phone	
Fax	
PO#	Quote

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Sampler Name: M Johnston	Signature: M Johnston
Project Name: Phase II RFI/SI	Project Number: AFC001-26CC
Project Location: NAS FW JRB	Date Required Hard Copy __/__/__
Lab PM: Donna Ingersoll	Fax __/__/__

Refrg # / #/ Cont. / Volume / Preserv

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	SW8260B VOCs (Appix I) cis 1,2 DCE	SW8270C SVOC (Appix I)	SW6010B/7000 metals (Appix I, Hg)	SW6010B *	SW8260B *	SW8270C *	Additional Analyses / Remarks
		BHGLAOC1908-01	8-21-01	830	S	G	X	X	X				
		BHGLAOC1908-02		845	S	G	X	X	X				
		BHGLAOC1908-03		855	S	G	X	X	X				
		BHGLSWMU1919-02		1525	S	G				X			Cd, Pb
		BHGLSWMU1919-03		1545	S	G				X	X		As (SW6010B), Acetone (SW8260B)
		BHGLSWMU1919-04		1600	S	G					X	X	Ethylbenzene (8260B), 2 methylnaphthalene (SW8270C)
	X	BHGLSWMU1919-04MS		1600	S	G					X	X	" " " "
	X	BHGLSWMU1919-04MD		1600	S	G					X	X	" " " "
		BHGLSWMU1924-01		1100	S	C				X			Arsenic
		BHGLSWMU1924-02		1115	S	C				X			As, Co, V
	X	BHGLSWMU1924-02MS		1115	S	C				X			As, Co, V
	X	BHGLSWMU1924-02MD		1115	S	C				X			As, Co, V

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
M Johnston	HydroGeoLogic	8-21-01	1811				

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ______

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other ______

Preservative Key
1 HCl Cool to 4°
2 H2SO4 Cool to 4°
3 HNO3, Cool to 4°
4 NaOH Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS
* Individual compounds to be run for this method listed in Remarks column

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Fax 708-534-5211

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Report To:		Bill To:	
Contact	Kim Evers	Contact	Kim Evers
Company	HydroGeologic, Inc.	Company	(Same)
Address	1155 Herndon Pkwy STE 900 Herndon VA 20170	Address	
Phone	703-478-5186	Phone	
Fax	703-471-4180	Fax	
E Mail	kevers@hgl.com	PO#	Quote

Lab Lot #	
Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Sampler Name: N Johnston	Signature: M Johnston
Project Name: Phase II RFI	Project Number: AFC001-26CC
Project Location: NAS FW JRB	Date Required Hard Copy __/__/__ Fax __/__/__
Lab PM: Donna Ingersoll	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	SW6010B *	SW8260B *	SW8270C 2-methylnaphthalene, naphthalene	SW1312 SPLP	SW8270C B2EHP	SW8260B VOCs (App IX) + CAL 12DCE	SW8270C SVOCs (App IX)	SW6010B/7000 metals + Hg	Additional Analyses / Remarks
		BH6LSWMU1924-03	8/21/01	1155	S	C	X	X	X						Co (6010); BTEX, acetone, MEK, methyl isobutyl ketone
		BH6LSWMU1924-04	↓	1205	S	C	X								Co, Cu
		BH6LSWMU1924-05		1220	S	C	X								As, Cd, Cu, V
		BH6LSWMU1925-03		1435	S	G		X		X					Benzene - run soil for benzene, extract w/1312, and run for Benzene
		BH6LSWMU1926-03		955	S	G		X		X					Acrylonitrile - run soil for, extract w/1312, + run for acrylonitrile
		BH6LSWMU1926-04		1015	S	G		X		X	X				Benzene + toluene - run soil for 8260 + 8270 extract 1312 + run for 8260 + 8270
		BH6LSWMU1927-04		1630	S	G		X		X					Benzene - run soil for benzene, extract SW1312, + run for benzene
		EB082101		1730	W	G						X	X	X	
		TB082101	↓	800	W	G						X			

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
M Johnston	HydroGeologic	8-21-01	1310				

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ____

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other

Preservative Key
1 HCl Cool to 4°
2 H2SO4 Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS
* Individual compounds to be run for this method listed in Remarks column

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Chicago Laboratory
2417 Bond Street
University Park, IL 60466
Phone 708-534-5200
Fax 708-534-5211

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Report To		Bill To	
Contact	Kim Evans	Contact	Kim Evans
Company	Hydrogeologic Inc	Company	[illegible]
Address	1155 Herndon Pkwy [illegible] Herndon VA 20170	Address	
Phone	703 477 5[illegible]	Phone	
Fax	703 - 471 - 4180	Fax	
E-Mail	[illegible]	PC#	Quote

Lab Lot #	
Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No COC not present	

Sampler Name	Signature
[illegible]	[illegible]
Project Name: Phase II RFI	Project Number: AF[illegible] - 26CC
Project Location: [illegible]	Date Required Hard Copy __/__/__
Lab PM: Diana Ingersoll	Fax __/__/__

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]					Additional Analyses / Remarks
		BNGLSWMU[illegible]-C2	8-22-01	1145	S	C	X									
		~~BNGLSWMU[illegible]~~	|													
		BNGLACC1904-C2	|	1525	S	C		X								
		BNGLACC1910-C1	|	1545	S	C		X								
	X	BNGLACC1910-C1MS	|	1545	S	C		X								
	X	BNGLACC1910-C1MSD	|	1545	S	C		X								
		BNGLACC1910-C2	|	1555	S	C		X								
		BNGLACC1910-C3	|	1605	S	C		X								
		EB[illegible]01	|	1720	W	G										
		TB[illegible]01	↓	730	W	G										

Refrg # / #/ Cont / Volume / Preserv

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[illegible]	[illegible]	8-22-01	1750				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater; W = Water; S = Soil; SL = Sludge; MS = Miscellaneous; OL = Oil; A = Air
SE = Sediment; SO = Solid; DS = Drum Solid; DL = Drum Liquid; L = Leachate; WI = Wipe; O = ____

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other

Preservative Key
1 HCl, Cool to 4°
2 H2SO4 Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate Cool to 4°
6 Cool to 4°
7 None

COMMENTS
[illegible] list VOCs [illegible] cis 1,2 DCE

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Chicago Laboratory
2417 Bond Street
University Park, IL 60466
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Fax 708-534-5211

Report To:
Contact: KIM BURNS
Company: HYDROGEOLOGIC, INC.
Address: 1155 HERNDON PKWY
STE 900
Phone: (703) 478-5186
Fax: (703) 471-4180
E-Mail: [illegible]@HGL.COM

Bill To:
Contact: SAME
Company:
Address:
Phone:
Fax:
PO#: Quote:

724 403

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Sampler Name: [illegible]
Signature: [illegible]
Project Name: SWMU/ACC 19 SOIL
Project Number: AFCEE-26CC
Project Location: [illegible]
Date Required Hard Copy: / /
Fax: / /
Lab PM: [illegible]

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	8260B	(2) Metals 6010B/7000A	SVOCs APIX 8270C	TCE 8260B	BTEX, TCE, PCE 8260B	As, Cd, V, Zn, Sb 6010B/7000A	Naphthalene 8270C	Acetone, MEK, TCE 8260B	As, Cd, Zn, Pb 6010B/7000A
		TLH0501	1/05/01	—	W	G	X								
		EB120501		1330	W	G	X	X	X						
		BHGLACC1911-03		1140	SO	G			X						
		BHGLACC1913-02		1315						X					
		BHGLACC1913-03		1225						X					
		BHGLACC1912-02		1135					X						
	X	BHGLACC1912-02MS		1125					X						
	X	BHGLACC1912-02MSD		1125					X						
		BHGLACC1912-03		1130					X						
		DUP02		1205							X	X	X		
		DUP03		1200									X	X	X
		DUP04		1200					X						

Refrg # / # Cont. / Volume / Preserv

Lab Lot #

Package Sealed Yes No	Samples Sealed Yes No
Received on Ice Yes No	Samples Intact Yes No
Temperature °C of Cooler	
Within Hold Time Yes No	Preserv. Indicated Yes No NA
pH Check ok Yes No NA	Res. Cl_2 Check ok Yes No NA
Sample Labels and COC Agree Yes No	COC not present

Additional Analyses / Remarks

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	HYDROGEOLOGIC, INC.	1/5/01	1800				
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O =

Container Key
1 Plastic
2 VOA Vial
3 Sterile Plastic
4 Amber Glass
5 Widemouth Glass
6 Other

Preservative Key
1 HCl, Cool to 4°
2 H2SO4, Cool to 4°
3 HNO3, Cool to 4°
4 NaOH, Cool to 4°
5 NaOH/Zn Acetate, Cool to 4°
6 Cool to 4°
7 None

COMMENTS: [illegible]
SOIL SAMPLES/VOCS [illegible]
[illegible] 48 HOURS [illegible]
TIME TO [illegible] TIME

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TAB

APPENDIX G

APPENDIX G

DATA VALIDATION REPORTS

ENVIRONMENTAL
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METALS

USEPA SW846 Methods 6010B/7000 - Level III Review

Site: Naval Air Station Fort Worth - D026CC SDG #: 9A05G259

Client HydroGeoLogic, Inc. Date June 28, 2000

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC1901-02	9A05G259-001	Soil
BHGLAOC1901-03	9A05G259-002	Soil
BHGLAOC1901-01	9A05G259-003	Soil

Holding Times - All samples were extracted and analyzed within 28 days for mercury and 180 days for all other metals as specified in the NAS Fort Worth JRB Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required

Calibration - All initial and continuing calibration verifications exhibited acceptable %R values. No qualifications were required.

Method Blanks - The water preparation blank PBW, initial and continuing calibration blanks exhibited beryllium and vanadium contamination at 1 5 ug/L and 2.2 ug/L, respectively Beryllium has been qualified (U) in samples BHGLA0C1901-02 and BHGLA0C1901-03 All other associated results are greater than 5X the blank concentration and no further qualifications were required.

The water preparation blank PBW, initial and continuing calibration blanks exhibited negative blank contamination for several compounds Antimony and silver have been qualified (UJ) in samples BHGLA0C1901-01, BHGLA0C1901-02 and BHGLA0C1901-03. All other associated results are greater than 5X the blank concentration or less than the PQL and no further qualifications were required.

Field and equipment blank - Equipment blank EB051200 (from SDG 9A05G263) exhibited zinc contamination at 11 9 ug/L, however, all associated results are greater than 5X the blank concentration and no qualifications were required

ICP Interference Check Sample - All % recovery values met the QC acceptance criteria No qualifications were required

LCS - The LCS sample exhibited acceptable %R values No qualifications were required

ICP Serial Dilutions - An ICP serial dilution was not analyzed with this data package

Matrix Spike/Duplicate - A matrix spike/duplicate sample was not analyzed with this data package.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Graphite Furnace Atomic Absorption (GFAA) Analysis - Samples BHGLAOC1901-02 and BHGLAOC1901-03 exhibited a postdigestion spike for the silver and thallium analyses out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance The laboratory flagged these results (W) and the reviewer further qualified these results (J/UJ) unless already qualified due to other problems.

Sample BHGLAOC1901-01 exhibited a postdigestion spike for the selenium and silver analyses out of control limits (85-115%) and sample absorbance is less than 50% of spike absorbance The laboratory flagged these results (W) and the reviewer further qualified these results (J/UJ) unless already qualified due to other problems.

Compound Quantitation - All results between the MDL and the PQL have been qualified (F)

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the method blank, GFAA and compound quantitation sections of this report The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Metals SDG 9A05G259					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLA0C1901-02	Antimony	0 29	U	0 29	UJ
	Arsenic	4 4	B	4.4	F
	Beryllium	0 60	-	0.60	U
	Cadmium	0 07	B	0 07	F
	Cobalt	5 2	B	5 2	F
	Copper	5 3	B	5 3	F
	Silver	0 01	UW	0 01	UJ
	Thallium	0 20	UW	0 20	UJ
	Tin	1 6	B	1 6	F
	Vanadium	29 5	B	29 5	F
	Zinc	21 0	B	21 0	F
BHGLA0C1901-03	Antimony	0 24	U	0 24	UJ
	Barium	33 3	B	33 3	F
	Beryllium	0 26	B	0 26	U
	Cadmium	0 13	B	0 13	F
	Chromium	7 4	B	7 4	F
	Cobalt	2 9	B	2 9	F
	Copper	4 2	B	4 2	F
	Nickel	7 6	B	7 6	F
	Silver	0 01	UW	0 01	UJ
	Thallium	0 17	UW	0 17	UJ
	Tin	1.0	B	1.0	F
	Vanadium	22.6	B	22 6	F
	Zinc	9 8	B	9 8	F
BHGLA0C1901-01	Antimony	0 31	U	0 31	UJ
	Arsenic	4 9	B	4 9	F
	Cobalt	4 6	B	4 6	F
	Copper	7 4	B	7 4	F
	Lead	14 9	B	14 9	F
	Nickel	10 0	B	10 0	F
	Selenium	0 22	UW	0 22	UJ
	Silver	0 01	UW	0 01	UJ
	Tin	1 2	B	1 2	F
	Vanadium	31 1	B	31 1	F
	Zinc	22 7	B	22 7	F

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ENVIRONMENTAL
Data Services, Inc.

APPENDIX IX SEMIVOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8270C - Level III Review

Site Naval Air Station Fort Worth - DO26CC SDG #: 9A05G259

Client. HydroGeoLogic. Inc. Date: June 28, 2000

Laboratory. Severn Trent Laboratories, Chicago. IL Reviewer Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHCLA0C1901-02	9A05G259-001	Soil
BHCLA0C1901-03	9A05G259-002	Soil
BHCLA0C1901-01	9A05G259-003	Soil

Holding Times - All samples were extracted within 14 days for soil samples and analyzed within 40 days as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP). March 2000. No qualifications were required

GC/MS Tuning - All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required

Initial Calibration - The initial calibrations analyzed on 03/02/00-05/16/00 exhibited acceptable %RSD and/or correlation coefficients and mean RRF values No qualifications were required.

The initial calibration analyzed on 03/02/00 exhibited high %RSD values for 1,4-naphthoquinone, 4-nitroquinoline-1-oxide and hexachlorophene of 56.3%, 46 7% and 39.3%, respectively. All three compounds have been rejected (R) in samples BHCLAOC1901-01, BHCLAOC1901-02, and BHCLAOC1901-03.

Continuing Calibration - The continuing calibration analyzed on 05/30/00 exhibited high %D values for hexachloroethane and 2,4-dinitrophenol of 29 03% and 28.39%, respectively. Both compounds have been rejected (R) in samples BHCLAOC1901-01, BHCLAOC1901-02, and BHCLAOC1901-03.

Surrogates - All samples exhibited acceptable surrogate %R values No qualifications were required.

Laboratory Control Samples - LCS sample SBLKRS exhibited acceptable %R values. No qualifications were required.

MS/MSD - A MS/MSD sample was not analyzed with this data package.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria. No qualifications were required.

Method Blank - Method blank SBLKRS (05/22/00) was free of contamination No qualifications were required

Field, equipment blank - Equipment blank EB051200 (from SDG 9A05G263) exhibited bis(2-ethylhexyl)phthalate contamination at 14 ug/L, however, all associated results are non-detect and no qualifications were required

Field Duplicates - Field duplicate samples were not analyzed with this data package

Tentatively Identified Compounds (TICs) - TICs were not identified in any of the samples.

Compound Quantitation - All results between the MDL and PQF have been qualified (F)

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the compound quantitation section of this report with the exception of five compounds which were rejected in all samples due to the initial and continuing calibrations. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Semivolatiles SDG 9A05G259					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHCLA0C1901-02	Hexachloroethane	380	U	380	R
	2,4-Dinitrophenol	1900	U	1900	R
	1,4-Naphthoquinone	1900	U	1900	R
	4-Nitroquinoline-1-Oxide	1900	U	1900	R
	Hexachlorophene	5700	U	5700	R
BHCLA0C1901-03	Hexachloroethane	350	U	350	R
	2,4-Dinitrophenol	1800	U	1800	R
	1,4-Naphthoquinone	1800	U	1800	R
	4-Nitroquinoline-1-Oxide	1800	U	1800	R
	Hexachlorophene	5300	U	5300	R
BHCLA0C1901-01	Hexachloroethane	390	U	390	R
	2,4-Dinitrophenol	2000	U	2000	R
	Butylbenzylphthalate	280	J	280	F
	1,4-Naphthoquinone	2000	U	2000	R
	4-Nitroquinoline-1-Oxide	2000	U	2000	R
	Hexachlorophene	5900	U	5900	R

ENVIRONMENTAL
Data Services, Inc.

APPENDIX IX VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO26CC SDG #: 9A05G507

Client: HydroGeoLogic, Inc. Date: July 25, 2000

Laboratory: Severn Trent Laboratories, Chicago, IL Reviewer: Cathy Shelby

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC1901-01	9A05G507-001	Soil
BHGLAOC1901-02	9A05G507-002	Soil
BHGLAOC1901-03	9A05G507-003	Soil
TB052600	9A05G507-004	Water
EB052600	9A05G507-005	Water

Holding Times - All soil samples were extracted within 48 hours for encore samples and analyzed within 14 days for preserved water and soil samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 01/12/00-03/27/00, 01/12/00-05/31/00 and 01/14/00-06/04/00 exhibited acceptable %RSD values and/or correlation coefficients. No qualifications were required.

Continuing Calibration - The continuing calibration analyzed on 06/07/00 exhibited high %D values for trichlorofluoromethane of 30.34%. Trichlorofluoromethane has been rejected (R) in samples TB052600 and EB062600.

The continuing calibrations analyzed on 06/06/00 and 06/08/00 exhibited acceptable %D value. No qualifications were required.

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required.

Laboratory Control Samples - LCS samples VBLKYX and VBLKZB exhibited acceptable %R values No qualifications were required.

LCS sample VBLKYZ exhibited a high %R value for tetrachloroethane of 109%. All associated results are non-detect and no qualifications were required.

MS/MSD - MS/MSD sample was not analyzed with this data package

Internal Standard (IS) Area Performance - Sample BHGLAOC1901-01 exhibited low area counts for internal standard 1,4-dichlorobenzene-d4 (IS4). All associated compounds have been qualified (J/UJ) in this sample.

Method Blank - Method blanks VBLKZB (06/06/00), VBLKYX (06/07/00), and VBLKYZ (06/08/00) were free of contamination. No qualifications were required

Trip, field, equipment blank - Trip blank TB052600 was free of contamination. No qualifications were required.

Equipment blank EB052600 exhibited methylene chloride contamination at 2 ug/L. Sample results were non-detect and no qualifications were required.

Field Duplicates - Field duplicate samples were not analyzed with this data package.

Tentatively Identified Compounds - TIC results have been qualified (T)

Compound Quantitation - All results between the MDL and the PQL have been qualified (F)

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the continuing calibration, internal standards, TICs and compound quantitation sections of this report with the exception of several rejections due to the continuing calibration. The NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Volatiles SDG· 9A05G507					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
BHGLAOC1901-01	1,1,2,2-Tetrachloroethane	2	U	2	UJ
	1,2,3-Trichloropropane	4	U	4	UJ
	Pentachloroethane	4	U	4	UJ
	1,2-Dibromo-3-Chloropropane	4	U	4	UJ
BHGLAOC1901-02	Trichloroethene	4	J	4	F
TB052600	Trichlorofluoromethane	0 5	U	0 5	R
EB052600	Trichlorofluoromethane	0 5	U	0.5	R

ENVIRONMENTAL
Data Services, Inc.

4/25/01

VOLATILE ORGANIC COMPOUNDS

USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO26CEA SDG #. 9B02G272

Client: HydroGeoLogic, Inc Date: April 13, 2001

Laboratory. Severn Trent Laboratories, Chicago, IL Reviewer Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
FT09-12CWG01	9B02G272-001	Water
WHGLTA004WG01	9B02G272-002	Water
WHGLTA801WG01	9B02G272-003	Water
WHGLTA051WG01	9B02G272-004	Water
WHGLTA052WG01	9B02G272-005	Water
DUP04	9B02G272-006	Water
EB022201	9B02G272-007	Water
TB022201	9B02G272-008	Water

Holding Times - All samples were analyzed within 14 days for preserved water samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000. No qualifications were required

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria. No qualifications were required.

Initial Calibration - The initial calibrations analyzed on 12/28/00-02/24/01 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values. No qualifications were required

Continuing Calibration - The continuing calibrations analyzed on 02/28/01, 03/01/01 and 03/04/01 exhibited acceptable %D values. No qualifications were required

Surrogates - All samples exhibited acceptable surrogate %R values. No qualifications were required

Laboratory Control Samples - LCS samples VBLKHQ and VBLKHU exhibited acceptable %R values No qualifications were required

LCS sample VBLKHO exhibited a low %R value for methylene chloride of 74% Methylene chloride has been rejected (R) in associated sample FT09-12CWG01.

MS/MSD - A MS/MSD sample was not analyzed with this data package

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria No qualifications were required

Method Blank - Method blanks VBLKHQ (03/01/01) and VBLKHU (03/04/01) were free of contamination No qualifications were required.

Method blank VBLKHO (02/28/01) exhibited 2-hexanone contamination at 2 ug/L, however, the associated results are non-detect and no qualifications were required.

Trip, field, equipment blank - Equipment blank EB022201 was free of contamination. No qualifications were required.

Trip blank TB022201 was free of contamination. No qualifications were required

Field Duplicates - Field duplicate results are summarized in the table below No qualifications were required.

Compound	WHGLTA801WG01 ug/L	DUP04 ug/L	RPD
Trichloroethene	360	260	32%

Tentatively Identified Compounds - All TICs were qualified (T)

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

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Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the TICs and compound quantitation sections of this report with the exception of one compound rejected due to the low LCS recovery The NAS Basewide Quality Assurance Project Plan. March 2000. data validation criteria were used in evaluating the data in this summary report.

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report

Qualification Summary Table - Volatiles SDG 9B02G272					
Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
FT09-12CWG01	Methylene Chloride	0 5	U	0 5	R
	Benzene	0 3	J	0 3	F
	Chlorobenzene	0 3	J	0 3	F

ENVIRONMENTAL
Data Services, Inc.

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6-18-01

APPENDIX IX VOLATILE ORGANIC COMPOUNDS
USEPA SW846 Method 8260B - Level III Review

Site: Naval Air Station Fort Worth - DO26CE SDG #. 202786

Client HydroGeoLogic, Inc. Date: June 5, 2001

Laboratory Severn Trent Laboratories, Chicago, IL Reviewer Nancy Weaver

Client Sample ID	Laboratory Sample ID	Matrix
EB040601	202786-1	Water
EB040601MS	202786-1MS	Water
EB040601MSD	202786-1MSD	Water
WHGLTA801WG02	202786-2	Water
WHGLTA056WG02	202786-3	Water
DUP05WG02	202786-4	Water
DUP06WG02	202786-5	Water
WHGLTA055WG02	202786-6	Water
WHGLTA054WG02	202786-7	Water
WHGLTA050WG02	202786-8	Water
WHGLTA052WG02	202786-9	Water
WHGLTA053WG02	202786-10	Water

Holding Times - All samples were analyzed within 14 days for preserved water samples as specified in the NAS Fort Worth JRB 2000 Basewide Quality Assurance Project Plan (QAPP), March 2000 No qualifications were required

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria No qualifications were required

Initial Calibration - The initial calibrations analyzed on 03/14/01-04/02/01 exhibited acceptable %RSD values and/or correlation coefficients and mean RRF values No qualifications were required.

Continuing Calibration - The continuing calibrations analyzed on 04/11/01 and 04/12/01 exhibited high %D values for dichlorodifluoromethane of 27.2% and 28 2%, respectively Dichlorodifluoromethane has been rejected (R) in all samples

Surrogates - All samples exhibited acceptable surrogate %R values No qualifications were required

Laboratory Control Samples - LCS samples 15826 and 17551 exhibited low %R values for dichlorodifluoromethane, however, this compound has already been qualified due to the continuing calibration and no further qualifications were required

MS/MSD - MS/MSD sample EB040601 exhibited low MS/MSD %R values for dichlorodifluoromethane of 41%/41% and a high RPD value for styrene of 21%. however. dichlorodifluoromethane is already qualified and styrene is non-detect in this sample and no qualifications were required

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria No qualifications were required.

Method Blank - Method blanks 15826 (04/12/01), 15998 (04/16/01) and 17551 (04/11/01) were free of contamination No qualifications were required

Trip, field, equipment blank - Equipment blank EB040601 exhibited methylene chloride contamination at 3 ug/L, however, all associated results are non-detect and no qualifications were required.

Field Duplicates - Field duplicate results are summarized in the tables below. No qualifications were required.

Compound	WHGLTA056WG02 ug/L	DUP05WG02 ug/L	RPD
Dichlorodifluoromethane	1	1	0%
Trans-1,2-Dichloroethene	1	1	0%
Cis-1,2-Dichloroethene	27	25	8%
Trichloroethene	68	67	1%

Compound	WHGLTA801WG02 ug/L	DUP06WG02 ug/L	RPD
Vinyl Chloride	5	6	18%
1,1-Dichloroethene	1	1	0%
Trans-1,2-Dichloroethene	29	29	0%
Cis-1,2-Dichloroethene	200	210	5%
Trichloroethene	150	170	13%

Tentatively Identified Compounds - TICs were not reported with the samples in this data package

Compound Quantitation - All results between the MDL and the PQL have been qualified (F).

Several samples exhibited compounds which exceeded the linear range of the instrument The samples were diluted and reanalyzed and the laboratory replaced the original results for these compounds with the dilution results on the Form Is

Comments - The analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags as presented in the compound quantitation section of this report with the exception of one compound rejected due to the continuing calibration The NAS Basewide Quality Assurance Project Plan, March 2000, data validation criteria were used in evaluating the data in this summary report

Data Validation Summary Table - The following table summarizes all qualifications as described in this data validation summary report.

Qualification Summary Table - Volatiles
SDG 202786

Sample No	Compound(s)	Reported		Validated	
		Conc	Qualifier	Conc	Qualifier
EB040601	Dichlorodifluoromethane	0 4	U*	0 4	R
WHGLTA801WG02	Dichlorodifluoromethane	0 4	U*	0 4	R
WHGLTA056WG02	Dichlorodifluoromethane	1	*	1	R
DUP05WG02	Dichlorodifluoromethane	1	*	1	R
DUP06WG02	Dichlorodifluoromethane	0 4	U*	0 4	R
WHGLTA055WG02	Dichlorodifluoromethane	0 4	U*	0 4	R
	Trichloroethene	0 5	FA	0 5	F
	Tetrachloroethene	0 5	FA	0 5	F
WHGLTA054WG02	Dichlorodifluoromethane	0 4	U*	0 4	R
WHGLTA050WG02	Dichlorodifluoromethane	0 4	U*	0 4	R
	1 1-Dichloroethene	0 5	FA	0 5	F
	Tetrachloroethene	0 4	FA	0 4	F
WHGLTA052WG02	Dichlorodifluoromethane	0 4	U*	0.4	R
WHGLTA053WG02	Dichlorodifluoromethane	0 4	U*	0 4	R

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Volatile Organic Compounds
SW-846 Method 8260B
USEPA Level III Review

Site NAS Fort Worth JRB

Laboratory: STL-Chicago

HydroGeoLogic, Inc Reviewer Kimberly Evers

SDG #: 202564

Date 06 13 01

Project AFC001-33DAA

Client Sample ID	**Laboratory Sample ID**	**Matrix**
WHGLTA004WG14	202564-1	Water
MW-53WG14	202564-2	Water
LF04-02WG14	202564-3	Water
DUP02WG14	202564-4	Water
WHGLTA025WG14	202564-5	Water
LF05-19WG14	202564-6	Water
TB032601	202564-7	Water

Note The only compounds that are being considered are the target compounds reported in this SDG and those relevant compounds used for data validation

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature, and properly preserved. Proper custody was documented. No qualification required

Holding Times - All samples were analyzed within the required holding times for preserved water samples No qualification required

GC/MS Tuning [Form 5] - The initial calibration and sample analytical sequences were all performed within 12 hours of an acceptable MS tune. No qualification required

Initial Calibration [Form 6] - Two initial calibrations are associated with these samples. Both initial calibrations had acceptable average RRFs for all SPCCs. The mean %RSD for all analytes was below 15%; all compound %RSDs were <30% No Qualification required.

Continuing Calibration [Form 7] - Four continuing calibration verifications (CCVs) are associated with this SDG, a CCV run on 03.30.01(on instrument GCL6), a CCV run on 03 30 01(on instrument GCL3) a CCV run on 03 31 01(on instrument GCL3) and one run on 04 02.01(on instrument GCL3). All SPCCs had CCRFs in control. All CCC %Ds were <20%, all other compound %Ds were in control with the following exceptions:

03.30 01(on instrument GCL6): Dichlorodifluoromethane had a %D of -41 8%. All associated results should be R-qualified.

03 30 01(on instrument GCL6). Chloromethane had a %D of -37 4% All associated results should be R-qualified.

03 30 01(on instrument GCL6) Methylene chloride had a %D of 31 4% All associated results should be R-qualified.

03 30 01(on instrument GCL6)' 1,2-dibromo-3-chloropropane had a %D of 28 1%. All associated results should be R-qualified

04 02 01(on instrument GCL3). Bromomethane had a %D of 25 9% All associated results should be R-qualified

Surrogates [Form 2] -All surrogate recoveries were within established control limits No data required qualification

Laboratory Control Samples [Form 3] - All %R results for LSC VBLK14720 met established control limits and no qualification is required All %R results for LSC VBLK14810 met established control limits except for a high %R value for chloromethane of 130% and a low %R for methylene chloride of 67% All associated results for chloromethane are non-detect and no qualifications are required. All associated results for methylene chloride have already been R qualified due to failure to meet acceptance criteria in the CCV All %R results for LSC VBLK14702 met established control limits and no qualifications are required All %R results for LSC VBLK14845 met established control limits and no qualifications are required.

MS/MSD [Form 3] - Sample WHGLTA025WG14 was used for the MS/MSD All %Rs were in control except for high %R for dichlorodifluoromethane, chloromethane and chloroethane in the MS and MSD There were no detections of the affected compounds and no qualification necessary A low %R was reported for methylene chloride, styrene and 1,2,4-trimethylbenzene in the MS and methylene chloride in the MSD. All associated results are non-detect and should be UJ qualified All RPDs were in control with the exception of bromomethane, styrene and 1,2,4-trimethylbenzene Styrene and 1,2,4-trimethylbenzene results in the parent sample have already been UJ qualified due to a low %R in the MS There were no detections of bromomethane reported and no qualification is necessary

Internal Standard Performance [Form 8] - All internal standards met area and retention time criteria No qualification necessary

Method Blanks [Form 1] - All method blanks were free from contamination No qualification necessary

Equipment and Trip Blanks [Form 1] - Trip blank TB032601 was free from contamination. No qualification necessary.

Field Duplicates [Form 1] - Field duplicate DUP02WG14 is associated with sample LF04-02WG14 Analyte RPDs meet the acceptance criteria and no qualification is required

Compound Quantitation - Sample WHGLTA004WG14 was analyzed at a 25 fold dilution due to high levels of cis-1,2-dichloroethene and trichloroethene. Sample LF04-02WG14 was analyzed at a 50 fold dilution due to high levels of trans-1,2-dichloroethene and cis-1,2-dichloroethene and a 100 fold dilution due to high levels of trichloroethene. Sample DUP02WG14 was analyzed at a 50 fold dilution due to high levels of trans-1,2-dichloroethene and cis-1,2-dichloroethene and a 100 fold dilution due to high levels of trichloroethene. Sample LF05-19WG14 was analyzed at a 100 fold dilution due to high levels of trichloroethene

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Qualification Summary Table

Note - The laboratory provides informational codes in a column in the report page called flags Those codes are removed and replaced with the appropriate qualifier.

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
WHGLTA004WG14	Dichlorodifluoromethane	0 4	U	0.4	R
	Chloromethane	0 4	U	0 4	R
	Methylene chloride	0 3	U	0 3	R
	1,2-dibromo-3-chloropropane	0 5	U	0 5	R
MW-53WG14	No flag changes necessary				
LF04-02WG14	Dichlorodifluoromethane	0.4	U	0.4	R
	Chloromethane	0 4	U	0.4	R
	Methylene chloride	0 3	U	0 3	R
	1,2-dibromo-3-chloropropane	0.5	U	0 5	R
DUP02WG14	Dichlorodifluoromethane	0.4	U	0 4	R
	Chloromethane	0.4	U	0.4	R
	Methylene chloride	0 3	U	0 3	R
	1,2-dibromo-3-chloropropane	0 5	U	0 5	R
WHGLTA025WG14	Methylene chloride	0 3	U	0 3	UJ
	Styrene	0 2	U	0 2	UJ
	1,2,4-trimethylbenzene	0 4	U	0 4	UJ
LF05-19WG14	No flag changes necessary				

Volatile Organic Compounds
SW-846 Method 8260B
USEPA Level III Review

Site NAS Fort Worth JRB — SDG #: 202789

Laboratory: STL-Chicago — Date 06 19.01

HydroGeoLogic, Inc. Reviewer: Kimberly Evers — Project. AFC001-33DAA

Client Sample ID	Laboratory Sample ID	Lab Batch	Matrix
TB040601	202789-1	18248	Water
WHGLTA603WG14	202789-2	18248	Water
WHGLPU001WG14	202789-3	18248	Water
DUP05WG14	202789-4	18248	Water
WHGLTA051WG14	202789-5	18248	Water
WHGLTA029WG14	202789-6	18248	Water

Note: The only compounds that are being considered are the target compounds reported in this SDG and those relevant compounds used for data validation

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature, and properly preserved Proper custody was documented No qualification required

Holding Times - All samples were analyzed within the required holding times for preserved water samples. No qualification required.

GC/MS Tuning [Form 5] - The initial calibration and sample analytical sequences were all performed within 12 hours of an acceptable MS tune No qualification required

Initial Calibration [Form 6] - The initial calibration had acceptable average RRFs for all SPCCs The mean %RSD for all analytes was below 15%, all compound %RSDs were <30% Compounds with a %RSD <15% are quantified using relative standard deviation Those with %RSD >15% are quantified using the calibration curve All calibration curves were evaluated and found to have r^2>0 995 and no qualification is necessary.

Continuing Calibration [Form 7] - One continuing calibration verification (CCV),run on 04 16 01, is associated with this SDG. All SPCCs had CCRFs in control All CCC %Ds were <20%, all other compound %Ds were in control with the following exceptions

04 16 01: Bromomethane had a %D of 42 51%. All associated results should be R qualified

04 16.01. Methylene chloride had a %D of 34.13% All associated results should be R qualified

Surrogates [Form 2] -All surrogate recoveries were within established control limits No data required qualification.

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Laboratory Control Samples [Form 3] - All %R results for LSC VBLK15998BS met established control limits with the exception of a low %R for methylene chloride All methylene chloride results have already been R qualified due to a failure to meet method specific control limits in the CCV

MS/MSD [Form 3] - Matrix Spike/Matrix Spike Duplicate analyses were not performed in this sample batch No qualification required

Internal Standard Performance [Form 8] - All internal standards met area and retention time criteria. No qualification necessary.

Method Blanks [Form 1] - The method blank was free from contamination No qualification necessary

Trip Blanks [Form 1] - Trip blank TB040601 was free from contamination and no qualification is necessary No equipment blank was submitted with this SDG

Field Duplicates [Form 1] - Field duplicate DUP05WG14 is associated with sample WHGLTA603WG14 The RPD meets the acceptance criteria and no qualification is required

Compound Quantitation - Sample WHGLTA051WG14 was analyzed at a 10 fold dilution due to high levels of TCE.

Qualification Summary Table
Note - The laboratory provides informational codes in a column in the report page called flags. Those codes are removed and replaced with the appropriate qualifier

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
WHGLTA603WG14	Bromomethane	0 4	U	0 4	R
	Methylene chloride	0 3	U	0 3	R
WHGLPU001WG14	Bromomethane	0 4	U	0 4	R
	Methylene chloride	0 3	U	0 3	R
DUP05WG14	Bromomethane	0 4	U	0 4	R
	Methylene chloride	0 3	U	0.3	R
WHGLTA051WG14	Bromomethane	0 4	U	0 4	R
	Methylene chloride	0.3	U	0 3	R
	Trichloroethene	Dilution result used			
WHGLTA051WG14DL	Trichloroethene	170	--	170	No flag
WHGLTA029WG14	Bromomethane	0 4	U	0 4	R
	Methylene chloride	0.3	U	0.3	R

Volatile Organic Compounds
SW-846 Method 8260B
USEPA Level III Review

Site: NAS Fort Worth JRB | SDG #: 203945

Laboratory. STL-Chicago | Date: 07 30.01

HydroGeoLogic, Inc Reviewer: Kimberly Evers | Project. AFC001-26CE

Client Sample ID	Laboratory Sample ID	Lab Batch	Matrix
WHGLTA801-WG03	203945-1	25604	Water
DUP07	203945-2	25604	Water

Note The only compounds that are being considered are the target compounds reported in this SDG and those relevant compounds used for data validation

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature, and properly preserved. Proper custody was documented No qualification required.

Holding Times - All samples were analyzed within the required holding times for preserved water samples. No qualification required.

GC/MS Tuning [Form 5] - The initial calibration and sample analytical sequences were all performed within 12 hours of an acceptable MS tune. No qualification required

Initial Calibration [Form 6] - The initial calibration had acceptable average RRFs for all SPCCs. The mean %RSD for all analytes was below 15%; all compound %RSDs were <30% Compounds with a %RSD <15% are quantified using relative standard deviation Those with %RSD >15% are quantified using the calibration curve. All calibration curves were evaluated and found to have r^2>0.995 and no qualification is necessary.

Continuing Calibration [Form 7] - One continuing calibration verification (CCV),run on 06.26 01, is associated with this SDG. All SPCCs had CCRFs in control. All CCC %Ds were <20%; all other compound %Ds were in control and no qualification is necessary.

Surrogates [Form 2] -All surrogate recoveries were within established control limits. No data required qualification.

Laboratory Control Samples [Form 3] - All %R results for LSC VBLK25604BS met established control limits and no qualification is necessary.

MS/MSD [Form 3] - Matrix Spike/Matrix Spike Duplicate analyses were not performed in this sample batch. No qualification required.

Internal Standard Performance [Form 8] - All internal standards met area and retention time criteria. No qualification necessary.

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Method Blanks [Form 1] - The method blank was free from contamination. No qualification necessary

Trip Blanks [Form 1] - Trip blank TB06140101 and equipment blank EB061401 from SDG #203944 are associated with these samples They were free from contamination and no qualification is necessary.

Field Duplicates [Form 1] - Field duplicate DUP07 is associated with sample WHGLTA801-WG03. The RPD meets the acceptance criteria and no qualification is required.

Compound Quantitation - Samples WHGLTA801-WG03 and DUP07 were analyzed at a 25X dilution due to high levels of trichloroethene.

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
WHGLTA801-WG03	No qualification necessary	--	--	--	--
DUP07	No qualification necessary	--	--	--	--

Appendix IX Volatile Organic Compounds
SW-846 Method 8260B
USEPA Level III Review

Site NAS Fort Worth JRB

Laboratory· STL-Chicago

HydroGeoLogic, Inc. Reviewer: Kimberly Evers

SDG #: 203960

Date. 08.27.01

Project· AFC001-26CE

Client Sample ID	Laboratory Sample ID	Analytical Batch	Matrix
WHGLTA050-WG03	203960-1	25674	Water
WHGLTA051-WG03	203960-2	25674	Water
WHGLTA004-WG03	203960-3	25674	Water
EB061501	203960-4	25674	Water
TB061501	203960-5	25674	Water

Note: These samples were only tested for TCE The only compounds that are being evaluated are TCE and those relevant compounds used for data validation

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature, and properly preserved. Proper custody was documented. No qualification required

Holding Times - All samples were analyzed within the required holding times for preserved water samples. No qualification required.

GC/MS Tuning - The initial calibration and sample analytical sequences were all performed within 12 hours of an acceptable MS tune. No qualification required.

Initial Calibration - The initial calibration had acceptable average RRFs for all SPCCs. The mean %RSD for all analytes was below 15%; all compound %RSDs were <30% Compounds with a %RSD <15% are quantified using relative standard deviation. Those with %RSD >15% are quantified using the calibration curve. All calibration curves were evaluated and found to have r>0 995 and no qualification is required

Continuing Calibration - Two continuing calibration verifications (CCVs), one run on 06 28 01 and one run on 06 29.01, are associated with this SDG. All SPCCs had CCRFs in control. All CCC %Ds were <20%; all other compound %Ds were in control.

Surrogates - All surrogate recoveries were within established control limits. No data required qualification.

Laboratory Control Samples - All %R results for both batch LCSs were in control with the exception of ethylbenzene, m&p-xylenes and o-zylenes which had %Rs greater than the upper control limit. None of the environmental samples in this data package were being analyzed for these compounds and no qualification is necessary

724 429.

MS/MSD - Matrix Spike/Matrix Spike Duplicate analyses were not performed in this sample batch. No qualification required.

Internal Standard Performance - All internal standards met area and retention time criteria. No qualification necessary.

Method Blanks - Both method blanks were free from contamination No qualification necessary

Equipment and Trip Blanks - Trip blank TB061501 and EB061501 are associated with these samples. Both the trip blank and the equipment blank were free from contamination. No qualification necessary.

Field Duplicates - No duplicate pairs were submitted with this SDG. No qualification necessary

Compound Quantitation - The TCE results reported for samples WHGLTA050-WG03, WHGLTA051-WG03 and WHGLTA004-WG03 were analyzed at a 25 fold dilution due to high levels detected in the original analysis.

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
WHGLTA050-WG03	No qualification necessary				
WHGLTA051-WG03	No qualification necessary				
WHGLTA004-WG03	No qualification necessary				

Trichloroethene
SW8260B
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas	SDG # 204138
Laboratory: STL-Chicago	Date 09 03.01
HydroGeoLogic, Inc Reviewer Ken Rapuano	

Client Sample ID	Laboratory Sample ID	Matrix
WHGLTA052-WG03	204138-001	Water

Sample Delivery and Condition - The sample arrived at the laboratory in acceptable condition and temperature. Proper custody (internal and external) was documented. No qualification required.

Holding Times - The sample was analyzed within the required holding time for preserved water samples, no qualification is necessary.

GC/MS Tuning - All BFB tunes associated with initial and continuing calibrations were in control No qualification necessary

Initial Calibration - The initial calibrations had an acceptable %RSDs for TCE All SPCCs had acceptable mean RRF values, and all CCCs had acceptable %RSD values No qualification necessary

Continuing Calibration - The continuing calibration had the %D in control for TCE All CCC %Ds and SPCC RRFs were in control No qualification necessary

Surrogates - All surrogate recoveries were in control, no qualification necessary

Laboratory Control Samples - All LCS results were in control, no qualification is necessary

MS/MSD - An MS/MSD was not performed in association with this SDG, no qualification is necessary

Internal Standards - All four ISs were in control for retention time and peak area for the sample analysis No qualification necessary

Method Blanks - The associated method blank was free from contamination; no qualification is necessary.

Field Blanks - Equipment blank EB062601 (results located in data package 204136) contained 0 22 F µg/L TCE The action level is 1 1 µg/L. The sample concentration is >> the action level and no qualification is necessary. Trip blank TB062601 (results located in data package 204136) were free from contamination. No qualification necessary

Field Duplicates - No field duplicates were submitted with this data package No qualification necessary.

Compound Quantitation - The sample was analyzed at a 25x dilution because of the elevated level of TCE. The MDL and reporting limit are adjusted accordingly.

724 431

Qualification Summary Table

No data require qualification.

Metals
SW-846 6010B/7000A Series
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas — SDG #: 204981

Laboratory: STL-Chicago — Date: 11 19.01

HydroGeoLogic, Inc Reviewer: Ken Rapuano — Project AFC001-26CC

Client Sample ID	Laboratory Sample ID	Matrix
THGLAOC1905-02	204981-1	Soil
IDW081501*	204981-2	Soil
EB081501	204981-3	Water

* This sample was analyzed for disposal purposes only, and does not need validation to the DQOs presented in the NASFW Basewide QAPP.

Sample Delivery and Condition - The samples arrived at the laboratory preserved, and in acceptable condition and temperature. Proper custody (internal and external) was documented. No qualification required.

Holding Times - All samples were analyzed within the required holding times for preserved soil samples No qualification required.

Calibration - The initial and continuing calibration verification standards had acceptable recoveries No qualification required.

Method and Calibration Blanks - The preparation blank and associated CCBs showed contamination above the MDL for cadmium (0 3 µg/L), leading to an action level of 0 15 mg/kg, chromium (0.3 mg/kg), leading to an action level of 1.5 mg/kg, and zinc (0 8 mg/kg) leading to an action level of 4.0 mg/kg. The associated results for these elements were greater than the associated action levels and no qualification is necessary

The preparation blanks and CCBs associated with the soil sample had negative baseline drift for silver. The highest associated blank values is -1.5 µg/L for silver, leading to an action level of 0.75 mg/kg. The silver result in sample number THGLAOC1905-02 was non-detect and should be UJ qualified at the MDL

Equipment Blanks - The equipment blank associated with this sample is EB081501. This equipment blank was contaminated with zinc (6.9 µg/L), leading to an action level of 3.45 mg/kg The associated sample result is greater than the action level and no qualification is necessary

ICP Interference Check Sample - All %Rs were in control. No qualification necessary.

ICP Serial Dilution - No serial dilution performed. No qualification necessary.

Laboratory Control Samples - All LCSs had acceptable recoveries. No qualification required

GFAA Recovery Tests - The recovery test was below the LCL for selenium and thallium in sample THGLAOC1905-02 All of the affected selenium and thallium results are non-detect and should be UJ qualified.

Matrix Spike Analyses - A matrix spike/matrix spike duplicate was not analyzed with this data package. No qualification is necessary.

Laboratory Duplicates - A laboratory duplicate was not analyzed with this data package No qualification necessary.

Field Duplicates - No field duplicate is associated with the sample in this SDG and no qualification is necessary.

Compound Quantitation - All analytes reported below the PQL are reported as F qualified detections The laboratory performed the analysis for lead at a 10x dilution due to the elevated concentration The laboratory performed the analysis for selenium at a 5x dilution due to interferences in the sample

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
THGLAOC1905-02	Selenium	0 76	U	0 76	UJ
	Silver	0.064	U	0 064	UJ
	Thallium	0 18	U	0 18	UJ

Appendix IX SVOCs
SW8270C
USEPA Level III Review

Site Naval Air Station Fort Worth JRB, Texas — SDG #: 204981

Laboratory STL-Chicago — Date: 11 14 01

HydroGeoLogic, Inc. Reviewer. Kimberly Evers — Project Number AFC001-26CC

Client Sample ID	Laboratory Sample ID	Lab Batch	Matrix
THGLAOC1905-02	204981-1	31873	Soil
THGLAOC1905-02	204981-1	35356	SPLP Extract
EB081501	204981-3	31874	Water

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature. Proper custody (internal and external) was documented. No qualification required.

Holding Times - All samples were extracted and analyzed within the required holding times for soil samples.

GC/MS Tuning - All DFTPP tunes associated with initial and continuing calibrations were in control. No qualification necessary

Initial Calibration - 08 09.01 and 09.07.01. The average mean %RSD for all analytes was below 15%, all compound %RSDs were <30% Several compounds with %RSD >15% are quantified using the calibration curve. All calibration curves were evaluated and found to have r^2>0.990, with the following exceptions:

08.09.01 (31873): N-Nitrosodimethylamine had r^2<0.990. The associated result should be R qualified

08.09.01 (31873) 1,2-Dichlorobenzene had r^2<0.990. The associated result should be R qualified.

08 09.01 (31873). 4-Nitroquinoline-1-oxide had r^2<0 990. The associated result should be R qualified.

09 07 01 (35356): 4-Nitroquinoline-1-oxide had r^2<0.990. This compound is not reported in the sample associated with this batch number. No qualification necessary.

Continuing Calibration - Two continuing calibration verifications (CCVs) are associated with the samples in this SDG. One was run on 08.11.01 (31873) and the other was run on 09.11 01 (35356) All CCC %Ds and SPCC RRFs were in control. The CCV had the %Ds within the 25% control limit for all compounds with the following exceptions

09.11.01 (35356): Benzyl alcohol had a %D of 58.08%. This compound is not reported in the sample associated with this batch number. No qualification necessary.

09.11.01 (35356): 2,4-Dimethylphenol had a %D of 28.58% This compound is not reported in the sample associated with this batch number No qualification necessary.

09.11.01 (35356) Methyl methanesulfonate, listed in Appendix A of the project QAPP, had a %D that did not meet the %D requirements; however, no corrective action is required for this compound. No qualification necessary

09 11.01 (35356) 1,4-Dioxane had a %D of 74.39% This compound is not reported in the sample associated with this batch number No qualification necessary

09 11 01 (35356)· 2-Picoline, listed in Appendix A of the project QAPP, had a %D that did not meet the %D requirements; however, no corrective action is required for this compound. No qualification necessary.

09 11.01 (35356) Pentachloronitrobenzene, listed in Appendix A of the project QAPP, had a %D that did not meet the %D requirements; however, no corrective action is required for this compound No qualification necessary.

09 11 01 (35356)· Hexachloropropene had a %D of 25.43%. This compound is not reported in the sample associated with this batch number. No qualification necessary.

09.11 01 (35356). p-Phenylenediamine, listed in Appendix A of the project QAPP, had a %D that did not meet the %D requirements; however, no corrective action is required for this compound. No qualification necessary

Surrogates - All surrogate recoveries were in control with the exception of the surrogate terphenyl-d14 for the SPLP analysis of THGLAOC1905-02, which was below the LCL. The %R for this compound was above 10% and no qualification is necessary.

Laboratory Control Samples - The LCSs associated with the analytical results for all samples are in control for all compounds No qualification necessary.

Note· The LSC associated with the equipment blank does not require validation and no qualification is necessary

MS/MSD - A matrix spike/matrix spike duplicate was preformed on soil sample THGLAOC1905-02 All %Rs were in control with the exception of a low %R of phenanthrene in the MS and MSD, and a low %R of fluoranthene and chrysene in the MSD. The associated detections of phenanthrene, fluoranthene and chrysene should be J qualified in the parent sample. The calculated RPDs were in control with the exception of 2,4-dinitrophenol, phenanthrene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and benzo(g,h,i)perylene. The associated detections of phenanthrene, fluoranthene and chrysene have already been J qualified in the parent sample due to a low %R in the MS or MSD The associated 2,4-dinitrophenol result is non-detect and no qualification is necessary. The associated pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and benzo(g,h,i)perylene detections should be J qualified.

Internal Standards - All six ISs were in control for retention time and peak area with the exception of perylene-d12 in the soil sample THGLAOC1905-02. The associated dibenzo(a,h)anthracene detection should be J qualifed in sample THGLAOC1905-02. The associated detections of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, and benzo(a)pyrene have already been J qualified in sample THGLAOC1905-02 due to a failure to meet QC RPD requirements in the MS/MSD.

Method Blanks - The method blank associated with samples in this SDG was free from contamination No qualification is necessary.

Field Blanks - The equipment blank, EB081501, associated with the samples was free from contamination and no qualification is necessary.

Field Duplicates - No field duplicate is associated with samples in this SDG. No qualification is necessary.

Compound Quantitation - No discrepancies were reported in this data package.

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
THGLAOC1905-02 (Soil)	N-Nitrosodimethylamine	110	U	110	R
	1,2-Dichlorobenzene	90	U	90	R
	Phenanthrene	2100	No flag	2100	J
	Fluoranthene	3500	No flag	3500	J
	Pyrene	3600	No flag	3600	J
	Benzo(a)anthracene,	2000	No flag	2000	J
	Chysene	2000	No flag	2000	J
	Benzo(b)fluoranthene	2200	No flag	2200	J
	Benzo(k)fluoranthene	1400	No flag	1400	J
	Benzo(a)pyrene	1800	No flag	1800	J
	Indeno(1,2,3-cd)pyrene	1100	No flag	1100	J
	Dibenzo(a,h)anthracene	430	No flag	430	J
	Benzo(g,h,i)perylene	1300	No flag	1300	J
	4-Nitroquinoline-1-oxide	1400	U	1400	R

724 437

Appendix IX Volatile Organic Compounds
SW-846 Method 8260B
USEPA Level III Review

Site NAS Fort Worth JRB

Laboratory· STL-Chicago

HydroGeoLogic, Inc. Reviewer· Kimberly Evers

SDG#: 204981

Date.11.12 01

Project AFC001-26CC

Client Sample ID	Laboratory Sample ID	Lab Batch	Matrix
THGLAOC1905-02	204981-1	29259	Soil
IDW081501*	204981-2	29259	Soil
EB081501	204981-3	29040	Water
TB081501	204981-4	29040	Water

* Sample IDW081501 is included in this SDG but does not requre validation

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature, and properly preserved. Proper custody was documented. No qualification is necessary

Holding Times - All samples were analyzed within the required holding time for soil samples and no qualification is necessary

GC/MS Tuning - The initial calibration and sample analytical sequences were all preformed within 12 hours of an acceptable MS tune No qualification required

Initial calibration - The initial calibration associated with the soil samples had acceptable average RRFs for all SPCCs. The mean %RSD for all analytes was below 15% in both calibrations, all compound %RSDs were <30%. Compounds with a %RSD <15% are quantified using the calibration curve. All calibration curves were evaluated and found to have r^2>0.990 with the exception of bromomethane, iodomethane and acetone, which had r^2<0.990 All associated bromomethane, iodomethane and acetone results in THGLAOC1905-02 should be R qualified

Note: The initial calibration from 07.05 01 is associated with the equipment and the trip blank and does not require validation. No qualification necessary.

Continuing Calibration - Two continuing calibration verification (CCV) are associated with this SDG One was run on 08.17.01 (29040) and one was run on 08.20 01 (29259). All SPCCs had CCRFs in control. All CCC %Ds were <20%, all other %Ds were in control with the following exception:

29259: 1,2-Dibromo-3-chloropropane had a %D of 34.45% All associated results should be R qualified.

Note The CCV run on 08.17.01 is associated with the equipment blank and the trip blank and does not require validation. No qualification necessary

Surrogates - All surrogate recoveries were within established control limits and no qualification is necessary.

Laboratory Control Samples - All %R results for the LSC associated with batches 29259 met established control limits and no qualification is necessary.

Note: The LCS associated with the equipment blank and the trip blank does not require validation and no qualification is necessary

MS/MSD - A matrix spike/matrix spike duplicate was not analyzed with this data package. No qualification necessary.

Internal Standard Performance - All internal standards met area and retention time criteria. No qualification necessary

Method Blanks - Both method blanks were free from contamination. No qualification necessary.

Trip Blanks - Trip blank TB081501 and equipment blank EB081501 are associated with the samples in this SDG. The equipment blank and the trip blank were free of contamination with the exception of 1 µg/L of chloromethane in the trip blank. The associated result is non-detect and no qualification is necessary

Field Duplicates - No duplicate pairs were submitted with this data package and no qualification is necessary.

Compound Quantitation - No discrepancies.

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
THGLAOC1905-02	Bromomethane	3	U	3	R
	Iodomethane	4	U	4	R
	Acetone	4	U	4	R
	1,2-Dibromo-3-chloropropane	1	U	1	R

724 439

Metals
SW-846 6010B/7000A Series
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas — SDG #: 205075

Laboratory: STL-Chicago — Date 11 20 01

HydroGeoLogic, Inc. Reviewer: Ken Rapuano — Project AFC001-26CC

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC1905-01	205075-1	Soil
BHGLAOC1905-02	205075-2	Soil
BHGLAOC1905-03	205075-3	Soil
EB082001	205075-8	Water

Sample Delivery and Condition - The samples arrived at the laboratory preserved, and in acceptable condition and temperature. Proper custody (internal and external) was documented No qualification required

Holding Times - All samples were analyzed within the required holding times for preserved soil samples. No qualification required

Calibration - The initial and continuing calibration verification standards had acceptable recoveries. No qualification required

Method and Calibration Blanks - The preparation blank and associated CCBs showed contamination above the MDL for chromium (0 3 mg/kg), leading to an action level of 1 5 mg/kg, tin (1 6 mg/kg), leading to an action level of 8.0 mg/kg, vanadium (3.8 µg/L), leading to an action level of 1.9 mg/kg, and zinc (5.8 mg/kg), leading to an action level of 29 mg/kg. The associated results for chromium and vanadium were greater than the associated action levels and no qualification is necessary All soil samples had detections of tin and zinc are below the associated action levels, and these detections are qualified U as laboratory artifacts

The preparation blanks and CCBs associated with the soil samples had negative baseline drift for the following elements:

Beryllium. The highest associated blank value is -0 047 mg/kg, leading to an action level of 0 235 mg/kg All beryllium results for soil samples are above the action level and no qualification is necessary.

Antimony. The highest associated blank value is -0 4 mg/kg, leading to an action level of 2 0 mg/kg All antimony results for soil samples are non detect and should be qualified UJ

Silver. The highest associated blank value is -0.1 mg/kg, leading to an action level of 0 5 mg/kg. All silver results for soil samples are non detect and should be qualified UJ

Equipment Blanks - The equipment blank associated with this sample is EB082001. This equipment blank was contaminated with zinc (8.0 µg/L), leading to an action level of 4.0 mg/kg The associated sample results are greater than the action level, but have already been qualified U as laboratory artifacts due to method blank contamination; no additional qualification is necessary

ICP Interference Check Sample - All %Rs were in control No qualification necessary.

ICP Serial Dilution - No serial dilution performed. No qualification necessary.

Laboratory Control Samples - All LCSs had acceptable recoveries. No qualification required.

GFAA Recovery Tests - The recovery test for antimony was above the UCL for all three soil samples All of the affected antimony results are non-detect and should be UJ qualified The recovery tests for selenium and thallium were below the LCL (but above 10%) for all three soil samples. All of the affected selenium and thallium results are non-detect and should be UJ qualified

Matrix Spike Analyses - A matrix spike/matrix spike duplicate was not analyzed with this data package No qualification is necessary

Laboratory Duplicates - A laboratory duplicate was not analyzed with this data package. No qualification necessary

Field Duplicates - No field duplicate is associated with the sample in this SDG and no qualification is necessary

Compound Quantitation - All analytes reported below the PQL are reported as F qualified detections The laboratory performed the analysis for lead at a 10x dilution due to the elevated concentration The laboratory performed the analysis for selenium at a 5x dilution due to interferences in the sample

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLAOC1905-01	Antimony	0.23	U	0 23	UJ
	Selenium	0.19	U	0.19	UJ
	Silver	0 080	U	0 080	UJ
	Thallium	0 23	U	0 23	UJ
	Tin	1.7	F	1.7	U
	Zinc	27.3	--	27 3	U
BHGLAOC1905-02	Antimony	0.21	U	0 21	UJ
	Selenium	0 18	U	0 18	UJ
	Silver	0.075	U	0.075	UJ
	Thallium	0 21	U	0.21	UJ
	Tin	1.8	F	1 8	U
	Zinc	16.3	F	16 3	U

724 441

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLAOC1905-03	Antimony	0.17	U	0 17	UJ
	Selenium	0.14	U	0 14	UJ
	Silver	0.059	U	0 059	UJ
	Thallium	0.17	U	0 17	UJ
	Tin	1 5	F	1 5	U
	Zinc	13.9	F	13 9	U

Appendix IX SVOCs
SW8270C
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas SDG #. 205075

Laboratory: STL-Chicago Date: 11.19.01

HydroGeoLogic, Inc Reviewer. Ken Rapuano Project Number. AFC001-26CC

Client Sample ID	Laboratory Sample ID	Lab Batch	Matrix
BHGLAOC1905-01	205075-1	30589/33348	Soil
BHGLAOC1905-02	205075-2	30589/33348	Soil
BHGLAOC1905-03	205075-3	30589/33348	Soil
EB082001	205075-8	30208	Water

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature. Proper custody (internal and external) was documented. No qualification required.

Holding Times - All samples were extracted and analyzed within the required holding times for soil samples; however, each soil sample was re-extracted 24 days outside the 14-day holding time The re-extracted batch (batch 33348) is rejected and no further validation is performed based on the QC results for that batch The original results from batch 30589 should be used for all soil samples.

GC/MS Tuning - All DFTPP tunes associated with initial and continuing calibrations were in control. No qualification necessary.

Initial Calibration - 07.27 01 and 09 21.01 All SPCC mean RRFs were above 0.050 and all CCC %RSDs were less than 30%. The average %RSD for all analytes was below 15%; all compound %RSDs were <30% No qualification necessary.

Note that the Form VI calibration summary (pp. 99-106) shows average RRFs and %RSDs for all compounds; however, several compounds are listed on the raw calibration summary reports (pp. 193-208) as being quantitated using linear, weighted linear, or power functions The r^2 values shown on pp. 193-208 are in control for all affected compounds except 1,2-dichlorobenzene and 4-nitroquinoline-1-oxide. The CCV and LCS are in control for 1,2-dichlorobenzene using either linear response or weighted linear response, and as this compound is not detected in any sample, it is the judgment of the validator that sufficient initial calibration control is demonstrated for this compound and no qualification is necessary The CCV and LCS are not used to control 4-nitroquinoline-1-oxide results (it is a compound listed in Appendix A of the NASFW Basewide QAPP), and this compound also needs no qualification as initial calibration control is shown for linear response.

Continuing Calibration - The continuing CCV associated with the samples in this SDG had all CCC %Ds and SPCC RRFs in control. The CCV had the %Ds within the 25% (30% for selected compounds) control limit for all compounds (50% for those compounds listed in Appendix A). No qualification necessary

Surrogates - All surrogate recoveries were in control. No qualification is necessary.

Laboratory Control Samples - The LCSs associated with the analytical results for all samples are in control for all compounds, with the exception of a low %R for benzyl alcohol All associated results for this compound should be rejected an qualified R.

MS/MSD - No matrix spike/matrix spike duplicate was in association with the soil samples in this data package No qualification necessary

Internal Standards - Each sample had all six ISs in control for retention time and peak area No qualification necessary.

Method Blanks - The method blank associated with samples in this SDG was free from contamination No qualification is necessary.

Field Blanks - The equipment blank, EB082001, associated with the samples was free from contamination and no qualification is necessary

Field Duplicates - No field duplicate is associated with samples in this SDG. No qualification is necessary

Compound Quantitation - No discrepancies were reported in this data package.

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLAOC1905-01	Benzyl alcohol	120	U	120	R
BHGLAOC1905-01 (reanalysis)	All results	MDL	U	MDL	RX
BHGLAOC1905-02	Benzyl alcohol	110	U	110	R
BHGLAOC1905-02 (reanalysis)	All results	MDL	U	MDL	RX
BHGLAOC1905-03	Benzyl alcohol	120	U	120	R
BHGLAOC1905-03 (reanalysis)	B2EHP	290	F	290	RX
	All other results	MDL	U	MDL	RX

Appendix IX Volatile Organic Compounds
SW-846 Method 8260B
USEPA Level III Review

Site: NAS Fort Worth JRB — SDG#: 205075

Laboratory: STL-Chicago — Date:10 30.01

HydroGeoLogic, Inc. Reviewer Kimberly Evers — Project: AFC001-26CC

Client Sample ID	Laboratory Sample ID	Lab Batch	Matrix
BHGLAOC1905-01	205075-1	30398	Soil
BHGLAOC1905-02	205075-2	30265	Soil
BHGLAOC1905-03	205075-3	30265	Soil
BHGLAOC1906-02*	205075-4	30398	Soil
BHGLAOC1906-03*	205075-5	30398	Soil
BHGLAOC1907-03*	205075-6	30265	Soil
DUP082001*	205075-7	30398	Soil
EB082001	205075-8	31000	Water
TB082001	205075-9	31000	Water

* Analyzed for Tnchloroethene only

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature, and properly preserved Proper custody was documented No qualification is necessary

Holding Times - All samples were analyzed within the required holding time for soil samples and no qualification is necessary.

GC/MS Tuning - The initial calibration and sample analytical sequences were all preformed within 12 hours of an acceptable MS tune. No qualification required

Initial calibration - The initial calibration associated with samples BHGLAOC1905-2, BHGLAOC1905-3 and BHGLAOC1907-3 had acceptable average RRFs for all SPCCs The mean %RSD for all analytes was below 15%; all compound %RSDs were <30%. Compounds with a %RSD <15% are quantified using the calibration curve. All calibration curves were evaluated and found to have r^2>0.990 and no qualification is necessary with the exception of bromomethane, iodomethane and acetone which had an r^2 <0 990. All associated bromomethane, iodomethane and acetone results in samples BHGLAOC1905-2 and BHGLAOC1905-3 should be R qualified These compounds are not reported for sample BHGLAOC1907-03.

The initial calibration associated with samples BHGLAOC1905-1, BHGLAOC1906-2 and BHGLAOC1906-3 had acceptable average RRFs for all SPCCs. The mean %RSD for all analytes was below 15%, all compound %RSDs were <30% Compounds with a %RSD <15% are quantified using the calibration curve. All calibration curves were evaluated and found to have r^2>0 990 and no qualification is necessary

724 445

Note. The initial calibration preformed on 08 29 01 is associated with the equipment and trip blank and does not require validation. No qualification is necessary

Continuing Calibration - Three continuing calibration are associated with this SDG. One was run on 08.28.01 (30265), one was run on 08 29.01 (30398) and one was run on 09.02.01 (31000). All SPCCs had CCRFs in control. All CCC %Ds were <20%; all other %Ds were in control with the following exceptions·

30265· 1,2-dibromo-3-chloropropane had a %D of 28.41% All associated results should be R qualified.

30265: Acrolein, listed in Appendix A of the QAPP, had a %D that did not meet the %D requirements; however, no corrective action is required for this compound.

30265· Iodomethane had a %D of 25 60%. All associated results should be R qualified

30398. Chloromethane had a %D of 32.90% All associated results should be R qualified.

30398· Bromomethane had a %D of 72 67%. All associated results should be R qualified.

30398 Chloroethane had a %D of 34.11%. All associated results should be R qualified.

30398. 1,2-dibromo-3-chloropropane had a %D of 25.16% All associated results should be R qualified.

30398: Pentachloroethane had a %D of 45 02%. All associated results should be R qualified.

Note The continuing calibration verification on 09.02 01 is associated with the equipment and trip blank and does not require validation. No qualification necessary

Surrogates - All surrogate recoveries were within established control limits with the exception of a high %R for dibromofluoromethane in sample number BHGLAOC1906-03. All detection in this sample should be J qualified

Laboratory Control Samples - All %R results for the LSCs associated with batches 30265, 30398 and 31000 met established control limits with the exception of a high %R for bromomethane and chloroethane in the LCS associated with batch 30398. All associated results in samples BHGLAOC1905-01, BHGLAOC1906-02, BHGLAOC1906-03 and DUP082001 for bromomethane and chloroethane have already been R qualified due to a failure to meet acceptance criteria in the CCV associated with these samples.

Note The LCS associated with the equipment blank and the trip blank does not require validation and no qualification is necessary.

MS/MSD - A matrix spike/matrix spike duplicate was not analyzed with this data package. No qualification necessary.

Internal Standard Performance - All internal standards met area and retention time criteria with the exception of sample BHGLAOC1906-03. All internal areas were below the 50% acceptance limits. The associated detection of TCE should be J qualified.

Method Blanks - All method blanks were free from contamination. No qualification necessary.

Trip Blanks - Trip blank TB082001 and equipment blank EB082001 were free of contamination and no qualification is necessary.

Field Duplicates - Field duplicate DUP082001 is associated with sample BHGLAOC1907-03. No detections are reported in either member of this duplicate pair. No qualification is necessary.

Compound Quantitation - No discrepancies.

Qualification Summary Table
Note - The laboratory provides informational codes in a column in the report page called flags. Those codes are removed and replaced with the appropriate qualifier

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLAOC1905-01	Chloromethane	1	U	1	R
	Bromomethane	3	U	3	R
	Chloroethane	2	U	2	R
	1,2-dibromo-3-chloropropane	1	U	1	R
	Pentachloroethane	6	U	6	R
BHGLAOC1905-02	Bromomethane	3	U	3	R
	Iodomethane	3	U	3	R
	Acetone	4	U	4	R
	1,2-dibromo-3-chloropropane	1	U	1	R
BHGLAOC1905-03	Bromomethane	3	U	3	R
	Iodomethane	3	U	3	R
	Acetone	14	No flag	14	R
	1,2-dibromo-3-chloropropane	1	U	1	R
BHGLAOC1906-02	No qualification necessary				
BHGLAOC1906-03	Trichloroethene	8	No flag	8	J
BHGLAOC1907-03	No qualification necessary				
DUP082001	No qualification necessary				

724 447

Metals
SW-846 6010B/7000A Series
USEPA Level III Review

Site: Naval Air Station Fort Worth RB, Texas — SDG #: 205104

Laboratory: STL-Chicago — Date: 11.26.01

HydroGeoLogic, Inc. Reviewer: Ken Rapuano — Project: AFC001-26CC

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC1908-01	205104-1	Soil
BHGLAOC1908-02	205104-2	Soil
BHGLAOC1908-03	205104-3	Soil
BHGLSWMU1919-02*	205104-4	Soil
BHGLSWMU1919-03*	205104-5	Soil
BHGLSWMU1924-01*	205104-7	Soil
BHGLSWMU1924-02*	205104-8	Soil
BHGLSWMU1924-03*	205104-9	Soil
BHGLSWMU1924-04*	205104-10	Soil
BHGLSWMU1924-05*	205104-11	Soil
EB082101	205104-16	Water

* Analyzed only for a sample-specific abbreviated list of metals

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature Proper custody (internal and external) was documented No qualification required.

Holding Times - All samples were analyzed within the required holding times for soil samples. No qualification required

Calibration - The initial and continuing calibration verification standards had acceptable recoveries No qualification required.

Method and Calibration Blanks - The preparation blank and associated CCBs showed contamination above the MDL for **chromium** (0.3 mg/kg), leading to an action level of 1.5 mg/kg; **tin** (1.6 mg/kg), leading to an action level of 8.0 mg/kg; **vanadium** (3.8 µg/L), leading to an action level of 1.9 mg/kg, and **zinc** (5 8 mg/kg), leading to an action level of 29 mg/kg All associated results for chromium and vanadium were greater than the associated action levels and no qualification is necessary. All associated tin and zinc results are below the associated action levels, and these detections are qualified U as laboratory artifacts.

The preparation blanks and CCBs associated with the soil samples had negative baseline drift for the following elements:

Beryllium. The highest associated blank value is -0.047 mg/kg, leading to an action level of 0.235 mg/kg All beryllium results for soil samples are above the action level and no qualification is necessary

Antimony The highest associated blank value is -0 4 mg/kg, leading to an action level of 2.0 mg/kg. The non-detect in sample BHGLAOC1908-01 should be qualified UJ All other associated antimony results should retain the F-qualifier.

Silver The highest associated blank value is -0 1 mg/kg, leading to an action level of 0.5 mg/kg. All associated silver results for soil samples are non-detect and should be qualified UJ

Equipment Blanks - The equipment blank associated with this sample is EB082101. This equipment blank was contaminated with zinc (6.9 µg/L), leading to an action level of 3 45 mg/kg. The associated sample results are greater than the action level, but have already been qualified U as laboratory artifacts due to method blank contamination, no additional qualification is necessary.

ICP Interference Check Sample - All %Rs were in control. No qualification necessary.

ICP Serial Dilution - A serial dilution was performed on sample BHGLSWMU1924-02 Vanadium did not meet the 10 %D criterion. All associated vanadium results are less than 5x the PQL and no qualification is necessary

Laboratory Control Samples - All LCSs had acceptable recoveries No qualification required.

GFAA Recovery Tests - The recovery test for antimony was above the UCL for samples BHGLAOC1908-02 and BHGLAOC1908-03. The antimony result for sample BHGLAOC1908-02 should retain its F-qualifier. The antimony result for sample BHGLAOC1908-03 is a non-detect and should be UJ qualified. The recovery tests for selenium were below the LCL (but above 10%) for samples BHGLAOC1908-01, BHGLAOC1908-02, BHGLAOC1908-03 All of the affected selenium results are non-detect and should be UJ qualified. The recovery tests for thallium were below the LCL (but above 10%) for samples BHGLAOC1908-02 and BHGLAOC1908-03. All of the affected thallium results are non-detect and should be UJ qualified.

Matrix Spike Analyses - A matrix spike/matrix spike duplicate was performed on sample BHGLSWMU1924-02 The matrix spike had high recoveries for arsenic and vanadium, and the MS/MSD pair had high RPDs for arsenic and vanadium Both these elements should retain the F-qualifier in the parent sample. No qualification is necessary.

Laboratory Duplicates - A laboratory duplicate was not analyzed with this data package. No qualification necessary.

Field Duplicates - No field duplicate is associated with the samples in this SDG and no qualification is necessary

Compound Quantitation - All analytes reported below the PQL are reported as F-qualified detections The laboratory performed analyses for lead at a 10x or 20x dilutions due to the elevated concentrations in the samples.

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Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLAOC1908-01	Selenium	0 20	U	0 20	UJ
	Silver	0 082	U	0.082	UJ
	Tin	1 6	F	1.6	U
	Zinc	20.3	F	20 3	U
BHGLAOC1908-02	Selenium	0.18	U	0 18	UJ
	Silver	0.075	U	0.075	UJ
	Thallium	0 21	U	0 21	UJ
	Tin	1.9	F	1 9	U
	Zinc	25.5	F	25.5	U
BHGLAOC1908-03	Antimony	0.24	U	0 24	UJ
	Selenium	0.20	U	0.20	UJ
	Silver	0.084	U	0.084	UJ
	Thallium	0.24	U	0 24	UJ
	Tin	2.1	F	2.1	U
	Zinc	16.7	F	16.7	U
BHGLSWMU1919-02	No qualification necessary				
BHGLSWMU1919-03	No qualification necessary				
BHGLSWMU1924-01	No qualification necessary				
BHGLSWMU1924-02	No qualification necessary				
BHGLSWMU1924-03	No qualification necessary				
BHGLSWMU1924-04	No qualification necessary				
BHGLSWMU1924-05	No qualification necessary				

Appendix IX SVOCs
SW8270C
USEPA Level III Review

Site Naval Air Station Fort Worth JRB, Texas | SDG #: 205104

Laboratory: STL-Chicago | Date: 11.26.01

HydroGeoLogic, Inc. Reviewer: Ken Rapuano | Project Number: AFC001-26CC

Client Sample ID	Laboratory Sample ID	Matrix
BHGLAOC1908-01	205104-1	Soil
BHGLAOC1908-02	205104-2	Soil
BHGLAOC1908-03	205104-3	Soil
BHGLSWMU1919-04*	205104-6	Soil
BHGLSWMU1924-03*	205104-9	Soil
BHGLSWMU1926-04*	205104-14	Soil**
EB082101	205104-16	Water

* Analyzed only for a sample-specific abbreviated list of SVOCs
** The chain of custody requests an SPLP extract and analysis for this sample, these were not performed

<u>Sample Delivery and Condition</u> - The samples arrived at the laboratory in acceptable condition and temperature. Proper custody (internal and external) was documented No qualification required.

<u>Holding Times</u> - All samples were extracted and analyzed within the required holding times for soil samples; however, each soil sample was re-extracted 22 days outside the 14-day holding time. The re-extracted batch (batch 33348) is rejected and no further validation is performed based on the QC results for that batch. The original results from extraction batch 30833 should be used for all soil samples.

<u>GC/MS Tuning</u> - All DFTPP tunes associated with initial and continuing calibrations were in control No qualification necessary.

<u>Initial Calibration</u> - 07.27.01 and 09.21 01: All SPCC mean RRFs were above 0.050 and all CCC %RSDs were less than 30%. The average %RSD for all analytes was below 15%; all compound %RSDs were <30%. No qualification necessary.

Note that the Form VI calibration summary (pp. 131-138) shows average RRFs and %RSDs for all compounds; however, several compounds are listed on the raw calibration summary reports (pp. 224-239) as being quantitated using linear, weighted linear, or power functions. The r^2 values shown on pp. 224-239 are in control for all affected compounds except 1,2-dichlorobenzene and 4-nitroquinoline-1-oxide The CCV and LCS are in control for 1,2-dichlorobenzene using either linear response or weighted linear response, and as this compound is not detected in any sample, it is the judgment of the validator that sufficient initial calibration control is demonstrated for this compound and no qualification is necessary. The CCV and LCS are not used to control 4-nitroquinoline-1-oxide results (it is a compound listed in

724 451

Appendix A of the NASFW Basewide QAPP), and this compound also needs no qualification as initial calibration control is shown for linear response.

Continuing Calibration - The continuing CCV associated with the samples in this SDG had all CCC %Ds and SPCC RRFs in control The CCV had the %Ds within the 25% (30% for selected compounds) control limit for all compounds (50% for those compounds listed in Appendix A) No qualification necessary

Surrogates - All surrogate recoveries were in control No qualification is necessary.

Laboratory Control Samples - The LCSs associated with the analytical results for all samples are in control for all compounds, with the exception of a low %R for benzyl alcohol All associated results for this compound should be rejected an qualified R

MS/MSD - A matrix spike/matrix spike duplicate was performed on sample BHGLSWMU1919-04. All %Rs and RPDs were in control. No qualification necessary.

Internal Standards - Each sample had all six ISs in control for retention time and peak area, with the exception of the peak area of IS naphthalene-*d8* in sample BHGLSWMU1926-04 No SVOCs associated with this IS are reported for this sample No qualification necessary

Method Blanks - The method blank associated with samples in this SDG was free from contamination. No qualification is necessary.

Field Blanks - The equipment blank, EB082101, associated with the samples was free from contamination and no qualification is necessary.

Field Duplicates - No field duplicate is associated with samples in this SDG No qualification is necessary.

Compound Quantitation - Compounds detected below the PQL are reported qualified F

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLAOC1908-01	Benzyl alcohol	120	U	120	R
BHGLAOC1908-01 (reanalysis)	All results	MDL	U	MDL	RX
BHGLAOC1908-02	Benzyl alcohol	120	U	120	R
BHGLAOC1908-02 (reanalysis)	All results	MDL	U	MDL	RX
BHGLAOC1908-03	Benzyl alcohol	120	U	120	R
BHGLAOC1908-03 (reanalysis)	All results	MDL	U	MDL	RX
BHGLSWMU1919-04	No qualification necessary.				
BHGLSWMU1924-03	No qualification necessary.				
BHGLSWMU1926-04	No qualification necessary.				

Appendix IX Volatile Organic Compounds
SW-846 Method 8260B
USEPA Level III Review

Site. NAS Fort Worth JRB | SDG# 205104

Laboratory: STL-Chicago | Date. 11.20 01

HydroGeoLogic, Inc Reviewer: Ken Rapuano | Project: AFC001-26CC

Client Sample ID	Laboratory Sample ID	LCS/Method Blank Batch	Matrix
BHGLAOC1908-01	205104-1	30381	Soil
BHGLAOC1908-02	205104-2	30381	Soil
BHGLAOC1908-03	205104-3	30381	Soil
BHGLSWMU1919-03*	205104-5	30381	Soil
BHGLSWMU1919-04*	205104-6	30845	Soil
BHGLSWMU1924-03*	205104-9	30871	Soil
BHGLSWMU1925-03*	205104-12	30871 & 30662	Soil & Exract
BHGLSWMU1926-03*	205104-13	30871 & 30662	Soil & Exract
BHGLSWMU1926-04*	205104-14	30871/30861 & 30662	Soil & Exract
BHGLSWMU1927-04*	205104-15	30871 & 30662	Soil & Exract
EB082101	205104-16	30789	Water
TB082101	205104-17	30789	Water

* Analyzed for selected VOCs only

<u>Sample Delivery and Condition</u> - The samples arrived at the laboratory in acceptable condition and temperature, and properly preserved. Proper custody was documented. No qualification is necessary.

<u>Holding Times</u> - All samples were analyzed within the required holding time for soil samples and no qualification is necessary

<u>GC/MS Tuning</u> - The initial calibration and sample analytical sequences were all preformed within 12 hours of an acceptable MS tune, with one exception. The SPLP extract for sample BHGLSWMU927-04 was injected 12 hours and 4 minutes after the BFB tuning standard, and the matrix spike of the SPLP extract of sample BHGLSWMU1925-03 was injected 12 hours and 40 minutes after the BFB tuning standard In the judgment of the validator, this is a minor discrepancy and no qualification is required.

<u>Initial Calibration</u> - Several ICal runs are reported in this data package. The QC issues associated with each one are discussed below:

pp. 148-150 This initial calibration is associated with the trip and equipment blanks, and no qualification is performed based on this calibration.

pp. 314-316: This initial calibration is associated with all soil analyses except the dilution of sample BHGLSWMU1926-04. Not all target analytes are included on the Form VI summary, and the raw calibration data on pp 317-329 were used to supplement this Form. [The laboratory resubmitted revised ICal pages to correct this deficiency after the data review was complete.] This calibration had acceptable average RRFs for all SPCCs and %RSDs for all CCCs The mean %RSD for all analytes was below 15%; all compound %RSDs were <30% Some compounds with a %RSD >15% are quantified using the calibration curve All calibration curves were evaluated and found to have r^2>0.990 No qualification is necessary

pp 401-403· This initial calibration is associated only with QC samples and is not evaluated. No qualification necessary

pp 552-554: This initial calibration is associated with all SPLP extract analyses The only target compounds are benzene, toluene, and acrylonitrile. This calibration had acceptable average RRFs for all SPCCs and %RSDs for all CCCs. The mean %RSD for all analytes was below 15%; all target compound %RSDs were below 30% No qualification necessary

pp 657-659: This initial calibration is associated only with the diluted analysis of toluene in soil sample BHGLSWMU1926-04. Therefore, only the SPCCs and CCCs (note that toluene is a CCC) results, and total average %RSD, are subject to review for this ICal. This calibration had acceptable average RRFs for all SPCCs and %RSDs for all CCCs. The mean %RSD for all analytes was below 15%; the toluene %RSD was below 30%. No qualification necessary.

Continuing Calibration - Each CCV was evaluated for SPCC RFFs, CCC %Ds, and target analyte %Ds<25%. Compounds listed in Appendix A of the QAPP have an advisory %D requirement of 50%, with no qualification or corrective action if this requirement is not met

pp. 747-749 and 755: This continuing calibration is associated with the soil analyses of samples BHGLAOC1908-01, -02, and -03, and BHGLSWMU1919-03. SPCCs and CCCs met criteria. The following compounds did not meet %D criteria· chloromethane, chloroethane, bromethane. All associated results should be R qualified. The 1,2-dibromo-3chloropropane %D was 25 2% This exceedence is considered by the validator to be nominal and this compound should not be qualified.

pp 760-762· This initial calibration is associated with all SPLP extract analyses. The only target compounds are benzene, toluene, and acrylonitrile. All SPCCs, CCCs, and target compounds met criteria and no qualification is necessary.

pp. 788-790 and 795. These CCVs are not associated with environmental samples and were not evaluated.

pp. 788-790 and 795· This continuing calibration is associated with the soil analyses of samples BHGLSWMU1924-03, BHGLSWMU1925-03, BHGLSWMU1926-03, BHGLSWMU1926-04 (original analysis only), and BHGLSWMU1927-04 The only analyte analyses associated with this CCV are for BTEX, acrylonitrile, acetone, MEK, and MIBK. SPCCs, CCCs, and target compounds met criteria, with the exception of acetone. The acceptance criterion for this compound is advisory only. No qualification necessary.

pp. 798-790· This continuing calibration is associated with the soil analysis of sample BHGLSWMU1919-04. The only analyte analysis associated with this CCV is acetone SPCCs, CCCs, and acetone met criteria. No qualification necessary.

pp. 805-807: This continuing calibration is associated with the diluted soil analysis of sample BHGLSWMU1926-04 The only analyte analysis associated with this CCV is toluene SPCCs and CCCs (toluene is a CCC) met criteria No qualification necessary.

Surrogates - The original and diluted analysis of sample BHGLSWMU1926-04 and the analysis of sample BHGLSWMU1927-04 had one or more surrogate recoveries above the UCL. All detections associated with these sample analyses should be J qualified.

Laboratory Control Samples - For the LCS associated batch 30381, the %R was above the UCL for bromomethane and chloroethane. The results for these compounds have already been rejected in this batch and no additional qualification is necessary All %R results for the LCSs associated with batches 30662, 30845, 30861, and 30871 met established control limits No qualification necessary

Note: The LCS associated with the equipment blank and the trip blank (batch 30789) and some QC samples (30836) do not require review.

MS/MSD - A matrix spike/matrix spike duplicate was performed on the soil fraction of sample BHGLSWMU1919-04, abd a matrix spike (no MSD) was performed on the SPLP fraction of sample BHGLSWMU1925-03. All recoveries and RPD were in control No qualification necessary.

Internal Standard Performance - All internal standards met area and retention time criteria with the exception of the original analysis of sample BHGLSWMU1926-04. All internal standard areas were below the 50% acceptance limit for this analysis The detection of benzene should be J qualified in this sample.

Method Blanks - All method blanks and extraction blanks were free from contamination No qualification necessary

Note: The method blanks associated with the equipment blank and the trip blank (batch 30789) and some QC samples (30836) do not require review

Trip Blanks - Trip blank TB08201 contained 1 µg/L methylene chloride, and equipment blank EB082101 contained 19 µg/L acetone. These detections caused action levels of 5 µg/kg for methylene chloride and 95 µg/kg for acetone. All associated detections of the affected compounds that are below the action level should be qualified U as artifacts.

Field Duplicates - No field duplicate was submitted with this data package. No qualification is necessary.

Compound Quantitation - No discrepancies noted Some compounds are reported from secondary dilutions with appropriate adjustment to MDLs and RLs.

Qualification Summary Table
Note - The laboratory provides informational codes in a column in the report page called flags Those codes are removed and replaced with the appropriate qualifier.

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLAOC1908-01	Chloromethane	1	U	1	R
	Bromomethane	3	U	3	R
	Chloroethane	2	U	2	R

724 455

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
	Acetone	8	--	8	U
BHGLAOC1908-02	Chloromethane	0 9	U	0.9	R
	Bromomethane	3	U	3	R
	Chloroethane	1	U	1	R
BHGLAOC1908-03	Chloromethane	0 9	U	0 9	R
	Bromomethane	3	U	3	R
	Chloroethane	1	U	1	R
BHGLSWMU1919-03	No qualification necessary				
BHGLSWMU1919-04	No qualification necessary				
BHGLSWMU1924-03	Acetone	6	--	6	U
BHGLSWMU1925-03	No qualification necessary				
BHGLSWMU1926-03	No qualification necessary				
BHGLSWMU1926-04	Benzene	52	--	52	J
	Toluene (original result)*	value	E	value	EX
	Toluene (diluted result)	8200	--	8200	J
BHGLSWMU1927-04	No qualification necessary				

* This result is not reported on the hardcopy.

Appendix IX SVOCs
SW8270C
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas — SDG #: 205132

Laboratory: STL-Chicago — Date. 11.28.01

HydroGeoLogic, Inc Reviewer. Ken Rapuano — Project Number: AFC001-26CC

Client Sample ID	Laboratory Sample ID	Batch	Matrix
BHGLSWMU1923-03*	205132-1	33924 & 33925	Soil & Extract
BHGLSWMU1923-04*	205132-2	33924 & 33925	Soil & Extract
BHGLSWMU1928-03*	205132-3	33924 & 33925	Soil & Extract
BHGLSWMU1928-06*	205132-6	33924 & 33925	Soil & Extract
BHGLSWMU1929-01	205132-8	33924	Soil
BHGLSWMU1929-02	205132-9	33924	Soil
BHGLSWMU1929-03	205132-10	33924	Soil
BHGLSWMU1929-04	205132-11	33924	Soil
DUP006	205132-12	33924	Soil
BHGLAOC1909-02**	205132-14	33924	Soil
BHGLAOC1910-01**	205132-15	33924	Soil
BHGLAOC1910-02**	205132-16	33924	Soil
BHGLAOC1910-03**	205132-17	33924	Soil
EB082201	205132-18	33926	Water

* Analyzed only for a sample-specific abbreviated list of SVOCs.
** The chain of custody request for "SVOCs/PAHs" is ambiguous; the laboratory provided a full-suite of Appendix IX analyses.

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature. The chain of custody did not specify analyses for the equipment blank. The laboratory correctly analyzed this blank for Appendix IX SVOCs Proper custody (internal and external) was documented No qualification required.

Holding Times - All samples were extracted and analyzed within the required holding times for soil samples. No qualification required.

GC/MS Tuning - All DFTPP tunes associated with initial and continuing calibrations were in control. No qualification necessary.

724 457

Initial Calibration - 07.27.01 and 09 07 01: This ICal is associated with all SPLP analyses in this SDG The only target analyte is bis(2-ethylhexyl)phthalate. All SPCC mean RRFs were above 0 050 (the hexachlorocyclopentadiene mean RRF was calculated to be 0.364) and all CCC %RSDs were less than 30%. The average %RSD for all analytes was below 15%; the B2EHP %RSD was <30%. No qualification necessary.

07.27.01 and 09 21.01. This ICal is associated with all soil sample analyses in this SDG. All SPCC mean RRFs were above 0.050 and all CCC %RSDs were less than 30% The average %RSD for all analytes was below 15%; all compound %RSDs were <30%, with the exceptions of 1,2-dichlorobenzene and 4-nitroquinoline-1-oxide All associated results for these two compounds are rejected and qualified R.

Continuing Calibration - 09.11 01 This CCV is associated with all SPLP analyses in this SDG. The only target analyte is bis(2-ethylhexyl)phthalate. All SPCC RRFs were above 0.050 and all CCC %Ds were less than 20% The B2EHP %D was <25% No qualification necessary.

09 24 01· This CCV is only associated with the equipment blank and was not reviewed.

10.03.01· This CCV is associated with all soil samples in this SDG All CCC %Ds and SPCC RRFs are in control The CCV had the %Ds within the 25% (30% for selected compounds) control limit for all compounds (50% for those compounds listed in Appendix A), with the exceptions of the %Ds for benzoic acid and benzo[*k*]anthracene. All associated results for these compounds are rejected and are qualified R.

Surrogates - The SPLP extracts of samples BHGLSWMU1923-04, BHGLSWMU1928-03, and BHGLSWMU1928-06 had a %R for base/neutral surrogate terphenyl-*d14* below the LCL but above 10% (the SPLP extract of BHGLSWMU1923-04 also had a %R for the acid surrogate 2-fluorophenol) No qualification is necessary, as two surrogates are in control for each fraction. All surrogate %Rs were in control for environmental soil samples No qualification necessary.

Laboratory Control Samples - The LCSs associated with the analytical results for all soil samples and SPLP extracts are in control for all compounds. No qualification is necessary.

MS/MSD - A matrix spike/matrix spike duplicate was performed on sample BHGLAOC1910-01 All %Rs and RPDs were in control, with the exceptions of low %Rs for 2,4-dimethylphenol, 4-chloroaniline, 4-nitrophenol, pentachlorophenol, 3, 3′-dichlorobenzidine in the MS and/or MSD There were no detections of these compounds in the parent sample, and these compounds should be qualified UJ. There were several compounds with %Rs above the UCL and/or RPDs greater than the precision control limit. There were no detections of the affected compounds in the parent sample and no qualification is necessary

Internal Standards - Each sample had all six ISs in control for retention time and peak area No qualification necessary.

Method Blanks - The method blanks associated with samples in this SDG were free from contamination No qualification is necessary.

Field Blanks - The equipment blank, EB082201, associated with the samples was free from contamination and no qualification is necessary

Field Duplicates - Sample DUP006 is a field duplicate of sample BHGLSWMU1929-02. There are no detections of target compounds in either member of this duplicate pair No qualification is necessary

Compound Quantitation - Compounds detected below the PQL are reported qualified F.

Qualification Summary Table

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLSWMU1923-03 (soil and SPLP)	No qualification necessary				
BHGLSWMU1923-04 (soil and SPLP)	No qualification necessary				
BHGLSWMU1928-03 (soil and SPLP)	No qualification necessary				
BHGLSWMU1928-06 (soil and SPLP)	No qualification necessary				
BHGLSWMU1929-01	1,2-Dichlorobenzene	97	U	97	R
	Benzoic acid	190	U	190	R
	Benzo[*k*]anthracene	130	U	130	R
	4-Nitroquinoline-1-oxide	1600	U	1600	R
BHGLSWMU1929-02	1,2-Dichlorobenzene	96	U	96	R
	Benzoic acid	190	U	190	R
	Benzo[*k*]anthracene	130	U	130	R
	4-Nitroquinoline-1-oxide	1500	U	1500	R
BHGLSWMU1929-03	1,2-Dichlorobenzene	100	U	100	R
	Benzoic acid	210	U	210	R
	Benzo[*k*]anthracene	140	U	140	R
	4-Nitroquinoline-1-oxide	1700	U	1700	R
BHGLSWMU1929-04	1,2-Dichlorobenzene	98	U	98	R
	Benzoic acid	190	U	190	R
	Benzo[*k*]anthracene	130	U	130	R
	4-Nitroquinoline-1-oxide	1600	U	1600	R
DUP006	1,2-Dichlorobenzene	98	U	98	R
	Benzoic acid	190	U	190	R
	Benzo[*k*]anthracene	130	U	130	R
	4-Nitroquinoline-1-oxide	1600	U	1600	R

724 459

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLAOC1909-02	1,2-Dichlorobenzene	90	U	90	R
	Benzoic acid	180	U	180	R
	Benzo[k]anthracene	120	U	120	R
	4-Nitroquinoline-1-oxide	1400	U	1400	R
BHGLAOC1910-01	1,2-Dichlorobenzene	96	U	96	R
	Benzoic acid	190	U	190	R
	2,4-Dimethylphenol	250	U	250	UJ
	4-Chloroaniline	140	U	140	UJ
	4-Nitrophenol	410	U	410	UJ
	Pentachlorophenol	210	U	210	UJ
	3,3′-Dichlorobenzidine	130	U	130	UJ
	Benzo[k]anthracene	130	U	130	R
	4-Nitroquinoline-1-oxide	1500	U	1500	R
BHGLAOC1910-02	1,2-Dichlorobenzene	93	U	93	R
	Benzoic acid	180	U	180	R
	Benzo[k]anthracene	120	U	120	R
	4-Nitroquinoline-1-oxide	1500	U	1500	R
BHGLAOC1910-03	1,2-Dichlorobenzene	100	U	100	R
	Benzoic acid	200	U	200	R
	Benzo[k]anthracene	140	U	140	R
	4-Nitroquinoline-1-oxide	1600	U	1600	R

Appendix IX SVOCs
SW8270C
USEPA Level III Review

Site: Naval Air Station Fort Worth JRB, Texas   SDG#. 207066

Laboratory. STL-Chicago   Date: 1.11.02

HydroGeoLogic, Inc. Reviewer. Ken Rapuano   Project· AFC001-26CC (AFC01-026-10)

Client Sample ID	Laboratory Sample ID	Matrix
EB120501	207066-2	Water
BHGLAOC1911-02†	207066-3	Soil
BHGLAOC1912-02	207066-6	Soil
BHGLAOC1912-03	207066-7	Soil
DUP02*	207066-8	Soil
DUP03*	207066-9	Soil
DUP04	207066-10	Soil
BHGLSWMU1935-02*	207066-11	Soil
BHGLSWMU1936-02*	207066-13	Soil
BHGLSWMU1936-03*	207066-14	Soil

† Mis-identified on the chain of custody. The correct sample ID is BHGLAOC1911-03.
* Analyzed only for a sample-specific abbreviated list of SVOCs

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature Proper custody (internal and external) was documented. No qualification required.

Holding Times - All samples were extracted and analyzed within the required holding times for soil samples. No qualification necessary.

GC/MS Tuning - All DFTPP tunes associated with initial and continuing calibrations were in control No qualification necessary.

Initial Calibration - 12 17.01 and 1.2.02· All SPCC mean RRFs were above 0.050 and all CCC %RSDs were less than 30%. The average %RSD for all analytes was below 15%; all compound %RSDs were <30%. Those compounds calibrated to a linear relationship or curve had r^2 values > 0.990.

Continuing Calibration - The continuing CCV associated with the samples in this SDG had all CCC %Ds and SPCC RRFs in control. The CCV had the %Ds within the 25% (30% for selected compounds) control limit for all compounds listed in Section 7 of the QAPP The %Ds were all less than 50% for those compounds listed in Appendix A of the QAPP. No qualification necessary

Surrogates - All surrogate recoveries were in control Note that the samples from SWMU 19 (including DUP02 and DUP03) were not analyzed for the acid fraction and only base/neutral surrogates are reported for these samples No qualification is necessary

Laboratory Control Samples - The LCSs associated with the analytical results for all samples are in control for all compounds, with the exception of a high %R for di-n-octyl phthalate. All associated results for this compound are non-detects and no qualification is necessary .

MS/MSD - A matrix spike/matrix spike duplicate was performed on sample BHGLAOC1912-02. All %Rs and RPDs were in control. No qualification necessary.

Internal Standards - Each sample had all six ISs in control for retention time and peak area No qualification necessary.

Method Blanks - The method blank associated with samples in this SDG was free from contamination. No qualification is necessary.

Field Blanks - The equipment blank, EB120501, associated with the samples was free from contamination and no qualification is necessary

Field Duplicates - There are three parent sample/field duplicate pairs in this SDG. BHGLSWMU1935-02/DUP02, BHGLSWMU1936-02/DUP03,and BHGLAOC1911-02/DUP04. There were no target compound detections in either member of duplicate pairs BHGLSWMU1935-02/DUP02 and BHGLSWMU1936-02/DUP03. No qualification is necessary

Duplicate pair BHGLAOC1911-02/DUP04 had multiple detections, which are compared in the table below

Analyte	BHGLAOC1911-02	DUP04	RPD	Acceptable?
Naphthalene	82 F	75 U	NA	Yes
Acenaphthene	130 F	62 U	NA	Yes
Fluorene	270 F	170 F	NA	Yes
Phenanthrene	1600	550	98	**No**
Anthracene	230 F	86 U	NA	Yes
Fluoranthene	2100	1100	63	**No**
Pyrene	1300	1200	8	Yes
Benzo[a]anthracene	650	640	2	Yes
Chrysene	740	720	3	Yes
bis(2-Ethylhexyl)phthalate	130 U	160 F	NA	Yes
Benzo[b]fluoranthene	670	910	30	Yes
Benzo[k]fluoranthene	470	620	28	Yes
Benzo[a]pyrene	580	820	34	No
Indeno[1,2,3-cd]pyrene	310 F	500	NA	**No**
Dibenzo[a,h]anthracene	130 U	170 F	NA	Yes
Benzo[g,h,i]perylene	300 F	520	NA	**No**

Where unacceptable precision was found, the affected results are qualified J in each member of the duplicate pair (those data points qualified F retain this qualifier).

<u>Compound Quantitation</u> - Compounds detected below the PQL are reported qualified F.

724 463

Qualification Summary Table

Note - The laboratory provides informational codes in a column in the report page called flags. Those codes are removed and replaced with the appropriate qualifier

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLAOC1911-02 (the correct sample ID is BHGLAOC1911-03)	Phenanthrene	1600	--	1600	J
	Fluoranthene	2100	--	2100	J
	Benzo[a]pyrene	580	--	580	J
BHGLAOC1912-02	No qualification necessary				
BHGLAOC1912-03	No qualification necessary				
DUP02	No qualification necessary.				
DUP03	No qualification necessary.				
DUP04	Phenanthrene	550	--	550	J
	Fluoranthene	1100	--	1100	J
	Benzo[a]pyrene	820	--	820	J
	Indeno[1,2,3-cd]pyrene	500	--	500	J
	Benzo[g,h,i]perylene	520	--	520	J
BHGLSWMU1935-02	No qualification necessary				
BHGLSWMU1936-02	No qualification necessary				
BHGLSWMU1936-03	No qualification necessary.				

Selected Volatile Organic Compounds
SW-846 Method 8260B
USEPA Level III Review

Site: NAS Fort Worth JRB

SDG#: 207066

Laboratory: STL-Chicago

Date 1.11.02

HydroGeoLogic, Inc Reviewer. Ken Rapuano

Project AFC001-26CC (AFC01-026-10)

Client Sample ID	Laboratory Sample ID	LCS/Method Blank Batch	Matrix
TB120501*	207066-1	40893	Water
EB120501*	207066-2	40893	Water
BHGLAOC1913-02	207066-4	42265	Soil
BHGLAOC1913-03	207066-5	42275	Soil
DUP02	207066-8	42275	Soil
DUP03	207066-9	42275	Soil
BHGLSWMU1935-02	207066-11	42275	Soil
BHGLSWMU1935-03	207066-12	42275	Soil
BHGLSWMU1936-02	207066-13	42275	Soil
BHGLSWMU1936-03	207066-14	42268 (med/high level)	Soil

* Analyzed for the full Appendix IX list of VOCs

Sample Delivery and Condition - The samples arrived at the laboratory in acceptable condition and temperature, and properly preserved. Proper custody was documented No qualification is necessary.

Holding Times - All samples were analyzed within the required holding time for soil samples and no qualification is necessary.

GC/MS Tuning - The initial calibration and sample analytical sequences were all preformed within 12 hours of an acceptable MS tune, with one exception. A laboratory standard labeled 'ICALSPIKE' was injected 19 hours and 5 minutes after the BFB tuning standard run on instrument GCL7. In the judgment of the validator, this is a minor discrepancy and no qualification is required.

Initial Calibration - Two ICal runs are reported in this data package. The QC issues associated with each one are discussed below:

pp. 93-105. This initial calibration is associated with the trip and equipment blanks, and no qualification is performed based on this calibration.

pp. 248-260: This initial calibration is associated with the soil analysis of sample BHGLSWMU1936 -03. Not all target analytes are included on the Form VI summary, and the raw calibration data were used to evaluate data. This calibration had acceptable average RRFs for all SPCCs and %RSDs for all CCCs The mean %RSD for all analytes was below 15%, all target compound %RSDs were <30%. One target compound, acetone, had a %RSD >15% and was quantified using a calibration curve The calibration curve was found to have r^2<0 990; the laboratory re-evaluated the calibration data, but was not able to fit a curve with r^2>0 990. The corresponding acetone result is rejected and qualified R.

pp. 352-364· This initial calibration is associated with all soil sample analyses in this SDG except BHGLSWMU1936-03. This calibration had acceptable average RRFs for all SPCCs and %RSDs for all CCCs. The mean %RSD for all analytes was below 15%; all target compound %RSDs were below 30%. One target compound, acetone, had a %RSD >15% and was quantified using a calibration curve The original calibration curve was found to have r^2<0.990; the laboratory re-evaluated the calibration data and was able to achieve r^2>0.990 by changing the form of the curve Th e laboratory submitted revised acetone data and no qualification is necessary

Continuing Calibration - Each CCV was evaluated for SPCC RRFs, CCC %Ds, and target analyte %Ds<25% Compounds listed in Appendix A of th e QAPP have an advisory %D requirement of 50%, with no qualification or corrective action if this requirement is not met.

pp 420-422: This continuing calibration is associated with the soil analyses of sample BHGLSWMU1936-03 All SPCCs, CCCs, and target compounds met criteria and no qualification is necessary

pp. 429-431 This initial calibration is associated with all soil sample analyses with the exceptions of BHGLAOC1913-02 and BHGLSWMU1936-03 All SPCCs, CCCs, and target compounds met criteria and no qualification is necessary.

pp. 436-438: This initial calibration is associated with the soil sample analysis of BHGLAOC1913-02. All SPCCs, CCCs, and target compounds met criteria and no qualification is necessary.

Surrogates - All samples in this SDG showed acceptable surrogate recoveries wi th one exception Sample BHGLSWMU1936-03 had two surrogate recoveries above the UCL. The sample was reanalyzed with similar results. The laboratory reported only the 'best' analysis for this sample All detections associated with this sample analysis should be J qualified

Laboratory Control Samples - All %R results for the LCSs associated with batches 42265, 42268, and 4227 5 met established control limits. No qualification necessary.

Note: The LCS associated with the equipment blank and the trip blank (batch 40893) does not require review.

MS/MSD - No matrix spike/matrix spike duplicate was performed on the soil samples in this SDG No qualification necessary.

Internal Standard Performance - All internal standards met area and retention time criteria with the exception of the reported analysis of sample BHGLAOC1913-02. The area of internal s tandard 1,4-dichlorobenzene-*d4* was below the 50% acceptance limit for this analysis. The only analyte requested for this sample is trichloroethene, which is not quantified using this IS. No qualification is necessary

Method Blanks - All method blanks and extraction blanks were free from contamination. No qualification necessary.

Note: The method blanks associated with the equipment blank and the trip blank (batch 40893) does not require review.

Trip Blanks - Trip blank TB120501 was free from contamination, equipment blank EB120501 contained 1 µg/L methylene chloride. This compound is not a requested analyte for any sample in this SDG and no qualification is necessary

Field Duplicates - DUP02 is a field duplicate of sample BHGLSWMU1935-02, DUP03 is a field duplicate of sample BHGLSWMU1936-02. All results in the DUP03/BHGLSWMU1936-02 pair met precision criteria No target compounds were detected in the DUP02/BHGLSWMU1935-02 pair. No qualification necessary.

Compound Quantitation - No discrepancies noted. Sample BHGLSWMU1936-03 was analyzed using the medium/high level method with methanol dilution due to high levels of non-target compounds present in the sample. This resulted in the MDLs and reporting limits for this sample to be elevated by a factor of approximately 20 fold. Sample BHGLAOC1913-02 was submitted without sufficient volume for the laboratory to determine the percent solids in the sample and calculate a dry weight correction for the wet weight results. The results for this sample are biased low, possibly by as much as 35% (assuming approximately 75% solids), and the result is qualified with a J

Qualification Summary Table
Note - The laboratory provides informational codes in a column in the report page called flags. Those codes are removed and replaced with the appropriate qualifier

Sample ID	Analyte	Lab Val	Lab Qual	HGL Val	HGL Qual
BHGLAOC1913-02	Trichloroethene	51	--	51	J
BHGLAOC1913-03	No qualification necessary				
DUP02	No qualification necessary				
DUP03	No qualification necessary				
BHGLSWMU1935-02	No qualification necessary				
BHGLSWMU1935-03	No qualification necessary				
BHGLSWMU1936-02	No qualification necessary				
BHGLSWMU1936-03	Acetone	28	U	28	R

TAB

APPENDIX H

APPENDIX H

METES AND BOUNDS

STATE OF TEXAS
TARRANT COUNTY

INDUSTRIAL SOLID WASTE
CERTIFICATION OF CLOSURE/REMEDIATION
AREA OF CONCERN 19

KNOW ALL MEN BY THESE PRESENTS THAT:

Pursuant to the Rules of the Texas Natural Resource Conservation Commission (TNRCC) pertaining to Industrial Solid Waste Management, this document is hereby filed in the Deed Records of Tarrant County, Texas in compliance with the recordation requirements of said rules:

I

The Department of the Air Force has performed closure/remediation of the land described herein. A copy of the Notice of Registration No. 65004, including a description of the facility, is attached hereto and is made part of this filing. A list of the known waste constituents, including known concentrations in soil, which have been left in place is attached hereto and is made part of this filing. Further information concerning this matter may be found by an examination of company records or in the Notice of Registration No. 65004 files, which are available for inspection upon request at the central office of the TNRCC in Austin, Texas.

The TNRCC derives its authority to review the closure/remediation of this tract of land from the Texas Solid Waste Disposal Act, § 361.002, Texas Health and Safety Code, Chapter 361, which enables the TNRCC to promulgate closure and remediation standards to safeguard the health, welfare and physical property of the people of the State and to protect the environment by controlling the management of solid waste. In addition, pursuant to the Texas Water Code, § 5.012 and § 5.013, Texas Water Code, Annotated, Chapter 5, the TNRCC is given primary responsibility for implementing the laws of the State of Texas relating to water and shall adopt any rules necessary to carry out its powers and duties under the Texas Water Code. In accordance with this authority, the TNRCC requires certain persons to provide certification and/or recordation in the real property records to notify the public of the conditions of the land and/or the occurrence of remediation. This deed certification is not a representation or warranty by the TNRCC of the suitability of this land for any purpose, nor does it constitute any guarantee by the TNRCC that the remediation standards specified in this certification have been met by the Department of the Air Force.

II

Parcel "B-1"

Being a tract of land situated in the John M. Shreeve Survey, Abstract No. 1456 within the Naval Air Station Fort Worth Joint Reserve Base (formerly known as Carswell Air Force Base), Tarrant County, Texas, said tract of land also being a portion of a boundary resurvey prepared by Baird, Hampton & Brown, Inc. of Fort Worth, Texas, dated January 14, 1998 and filed with the Air Force Base Conversion Agency and Westworth Redevelopment Authority, said tract of land being described by metes and bounds as follows:

BEGINNING at a set 5/8 inch capped iron rod stamped "BHB INC" having a State Plane Coordinate (North Central Zone, NAD 83) of Northing: 6963043.31; Easting: 2296164.36, for the northeast and beginning corner of tract being described, from which a 5/8 inch aluminum capped iron rod found stamped "N-13" at the Point of Beginning of the area labeled "ENVIRONMENTAL AREA" on said resurvey, bears north 48 degrees 59 minutes 47 seconds west, a distance of 108.32 feet and a 5/8 inch aluminum capped iron rod found stamped "N-12", shown on the West line of said "ENVIRONMENTAL AREA" of said boundary resurvey, bears south 07 degrees 02 minutes 26 seconds west, a distance of 685.13 feet; thence south 00 degrees 12 minutes 09 seconds east, a distance of 283.38 feet to a 5/8" capped iron rod set marked "BHB INC"; thence south 84 degrees 23 minutes 22 seconds west, a distance of 346.98 feet to a 5/8" capped iron rod set marked "BHB INC"; thence north 19 degrees 26 minutes 29 seconds east, a distance of 336.44 feet to a 5/8" capped iron rod set marked "BHB INC"; thence north 89 degrees 59 minutes 17 seconds east, a distance of 232.33 feet to the point of beginning and containing 85798 square feet or 1.969 acres more or less, as surveyed by Steven W. Hughes, Registered Professional Land Surveyor during the month of 2002.

The basis of bearings for this description is the NAD 83 (1986) State Plane Coordinate System for North Central Texas, Zone 4202, US Feet. All bearings shown are based on grid bearings. All distances shown are ground distances in US Feet Parcel "B-1" is depicted in Exhibit "B-1".

Parcel "B-2"

Being a tract of land situated in the John M. Shreeve Survey, Abstract No. 1456 within the Naval Air Station Fort Worth Joint Reserve Base (formerly known as Carswell Air Force Base), Tarrant County, Texas, said tract of land also being a portion of a boundary resurvey prepared by Baird, Hampton & Brown, Inc. of Fort Worth, Texas, dated January 14, 1998 and filed with the Air Force Base Conversion Agency and Westworth Redevelopment Authority, said tract of land being described by metes and bounds as follows:

BEGINNING at a set 5/8 inch capped iron rod stamped "BHB INC" having a State Plane Coordinate (North Central Zone, NAD 83) of Northing: 6963113.19; Easting: 2296037.66, for the northeast and beginning corner of tract being described, from which a 5/8 inch aluminum capped iron rod found stamped "N-13" at the Point of Beginning of the area labeled

"ENVIRONMENTAL AREA" on said resurvey, bears north 88 degrees 29 minutes 25 seconds east, a distance of 44.97 feet and a 5/8 inch aluminum capped iron rod found stamped "N-12", shown on the West line of said "ENVIRONMENTAL AREA" of said boundary resurvey, bears south 03 degrees 15 minutes 44 seconds east, a distance of 751.07 feet; thence south 20 degrees 34 minutes 00 seconds west, a distance of 71.80 feet to a 5/8" capped iron rod set marked "BHB INC"; thence north 88 degrees 11 minutes 49 seconds west, a distance of 23.36 feet to a 5/8" capped iron rod set marked "BHB INC"; thence north 19 degrees 30 minutes 05 seconds west, a distance of 35.46 feet to a 5/8" capped iron rod set marked "BHB INC"; thence north 61 degrees 18 minutes 42 seconds east, a distance of 68.87 feet to the point of beginning and containing 1999 square feet or 0.045 of an acre more or less, as surveyed by Steven W. Hughes, Registered Professional Land Surveyor during the month of 2002.

The basis of bearings for this description is the NAD 83 (1986) State Plane Coordinate System for North Central Texas, Zone 4202, US Feet. All bearings shown are based on grid bearings. All distances shown are ground distances in US Feet. Parcel "B-2" is depicted in Exhibit "B-2".

Volatile Organic Compound (VOC) contaminated soil in Parcel "B-1" and Semi-volatile Organic Compound (SVOC) contaminated soil in Parcel "B-2" meets non-residential (i.e., industrial/commercial) criteria, in accordance with the TNRCC's requirements in 30 Texas Administrative Code, §335.555, which mandates that the closure/remedy be designed to eliminate substantial present and future risk such that no post-closure care or engineering or institutional control measures are required to protect human health and the environment. Future land use is considered suitable for non-residential (i.e., industrial/commercial) purposes in accordance with risk reduction standards applicable at the time of this filing. Future land use is intended to be non-residential.

In accordance with the requirements for Standard 2 cleanups where the closure/remedy is based upon non-residential soil criteria, the current owner has undertaken actions as necessary to protect human health or the environment in accordance with the rules of the TNRCC.

724.472

Maximum Concentrations of Soil Contaminants Left in Place
Area of Concern 19

Analytical Method	Analyte	Maximum Concentration (mg/kg)
	VOCs	
SW8260B	Trichloroethene	0.051 J
	SVOCs	
SW8270C	Anthracene	0.38
SW8270C	Benzo(a)anthracene	2
SW8270C	Benzo(a)pyrene	1.8
SW8270C	Benzo(b)fluoranthene	2.2
SW8270C	Benzo(g,h,i)perylene	1.3
SW8270C	Benzo(k)fluoranthene	1.4
SW8270C	bis(2-Ethylhexyl)phthalate	0.66
SW8270C	Chrysene	2
SW8270C	Dibenz(a,h)anthracene	0.43
SW8270C	Fluoranthene	3.5
SW8270C	Indeno(1,2,3-c,d)pyrene	1.1
SW8270C	Phenanthrene	2.1
SW8270C	Pyrene	3.6

III

STATE OF TEXAS
TARRANT COUNTY

The owner of the site is Department of the Air Force, and its address is Headquarters Air Force Center of Environmental Excellence (AFCEE)/Environmental Restoration Division (ERD), 3207 Sidney Brooks, Brooks Air Force Base, Texas 78235-5363

EXECUTED this the 26th day of April, 2002.

Department of the Air Force

Michael R Dodyk

Michael R. Dodyk, P.E.
Environmental Restoration Team Chief

BEFORE ME, on this the 26th day of April, 2002, personally appeared Michael R. Dodyk, Environmental Restoration Team Chief, Air Force Center for Environmental Excellence, United States Air Force, known to me to be the person and agent of said government agency whose name is subscribed to the foregoing instrument, and he acknowledged to me that he executed the same for the purposes and in the capacity therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 26th day of April, 2002.

BILLY VAN DEREN

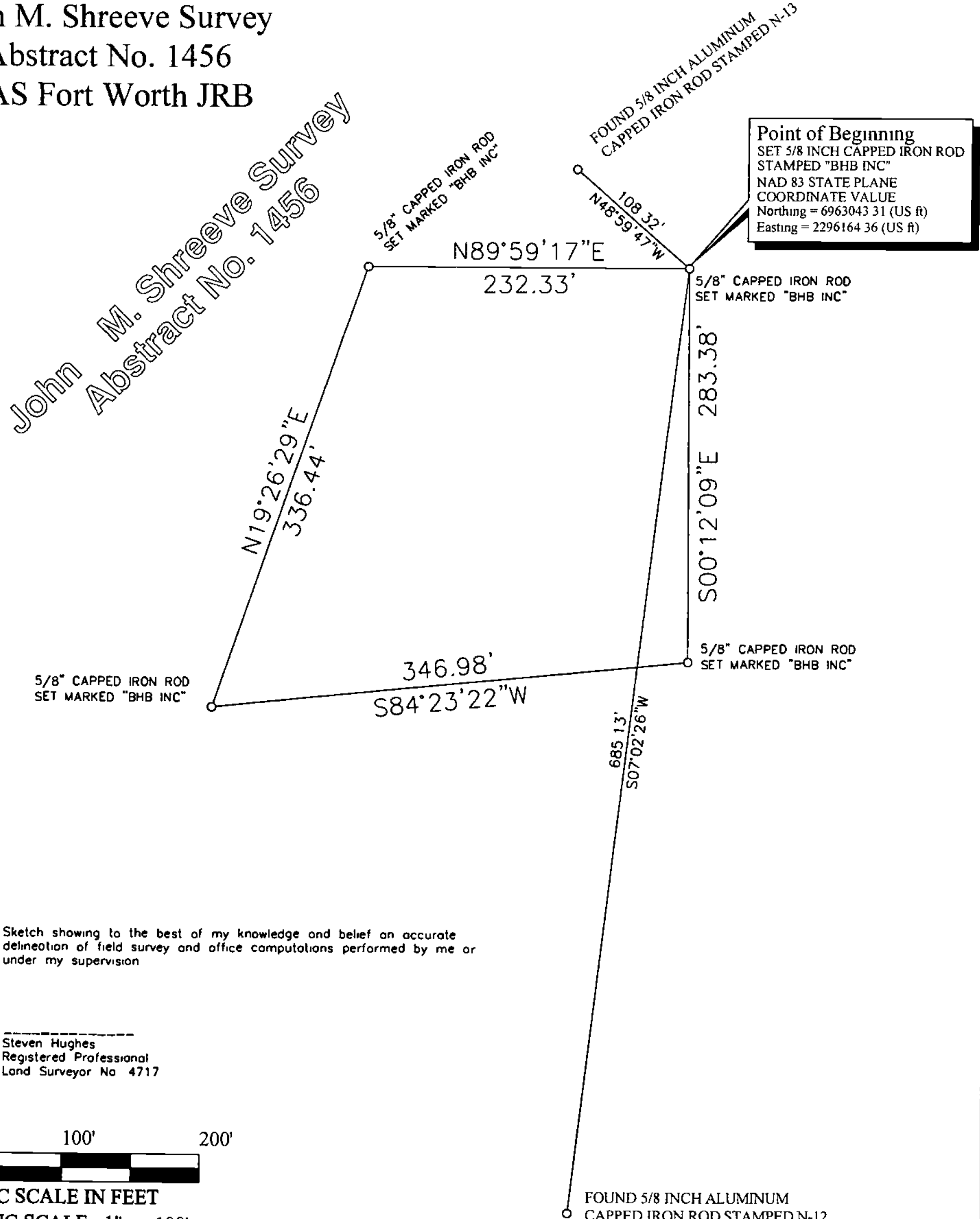
Notary Public in and for the State of Texas, of Tarrant County

BILLY VAN-DEREN
MY COMMISSION EXPIRES
May 6, 2003

6 May 2003
My Commission Expires

EXHIBIT "B-1"

Exhibit Showing
85,798 Square feet in the
John M. Shreeve Survey
Abstract No. 1456
NAS Fort Worth JRB



Sketch showing to the best of my knowledge and belief an accurate delineation of field survey and office computations performed by me or under my supervision

Steven Hughes
Registered Professional
Land Surveyor No 4717

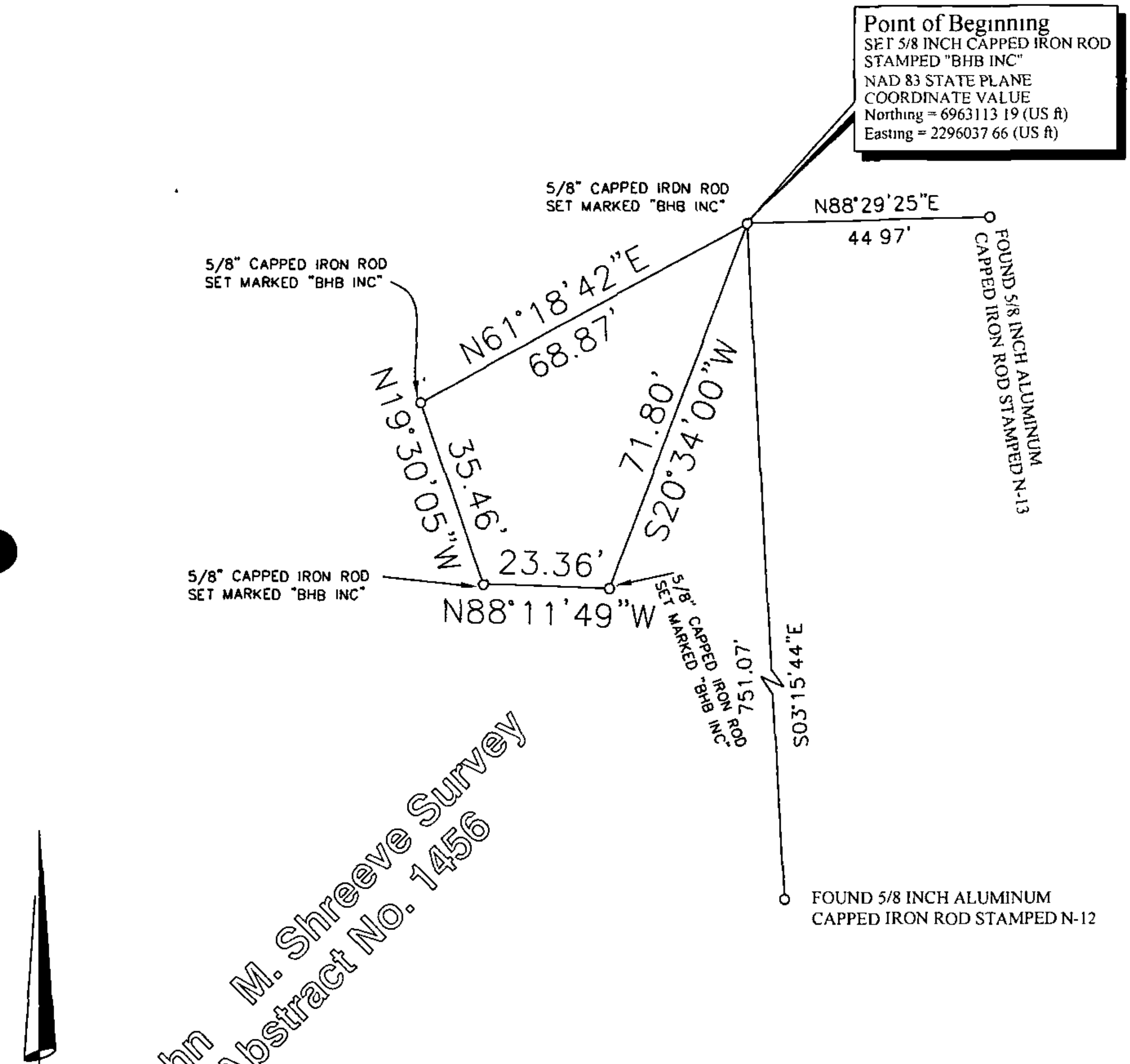
GRAPHIC SCALE IN FEET
DRAWING SCALE: 1" = 100'

Baird, Hampton & Brown, Inc.
Engineering & Surveying
309 W 7th St, Ste 500 Ft Worth, TX 76102 Tel (817)338-1277 Fax (817)338-9245 E-Mail mail@bhbinc com

DRAWN BY	JPW
CHECKED BY	BHB
BHB PROJECT	2002 300 027
DATE	April 23, 2002

Exhibit Showing 1,999 Square feet in the John M. Shreeve Survey Abstract No. 1456 NAS Fort Worth JRB

EXHIBIT "B-2"



Sketch showing to the best of my knowledge and belief an accurate delineation of field survey and office computations performed by me or under my supervision

0 30' 60'

GRAPHIC SCALE IN FEET
DRAWING SCALE: 1" = 30'

Steven Hughes
Registered Professional
Land Surveyor No 4717

Baird, Hampton & Brown, Inc.
Engineering & Surveying
309 W 7th St, Ste 500 Ft Worth, TX 76102 Tel (817)338-1277 Fax (817)338-9245 E-Mail mail@bhbinc com

DRAWN BY:	JPW
CHECKED BY	BHB
BHB PROJECT	2002 300 027
DATE	April 23, 2002

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE